Torchbearer
National Security Report

U.S. Army Aviation: Balancing Current and Future Demands

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President Dwight D. Eisenhower, when confronting a changing world, commented: "We cannot face the future simply by walking into the past backwards." His point is evident in the action plans Army aviation is executing today. It is not merely anticipating change, it is not just thinking about it—it is already executing change in very fundamental ways. Exploiting the vertical dimension of landpower—the manned and unmanned platforms of Army aviation enabled by cyberspace—is at the heart of the nation's ability to control land and influence people and populations.

The transformation and modernization of Army aviation is, at this time, on track and meeting current demands. Without continued timely and predictable resources, Army aviation will have difficulty balancing the demands of current and future operations. The reinvestment of Comanche-termination dollars continues to be the key enabler for Army aviation to achieve its transformation and modernization goals. Likewise, continued investment in Army aviation's prioritized modernization strategy will prepare it for subsequent conflicts.

In this latest installment of AUSA's signature Torchbearer series, we discuss how Army aviation is balancing current and future demands and outline what must be done for success. We hope that you will find this report a useful resource and that you will continue to look to AUSA for thoughtful, credible analysis of contemporary national security issues.

GORDON R. SULLIVAN
General, United States Army (Retired)
President, AUSA

Contents





Executive Summary

Army aviation [is] a critical factor in [the Army's] warfighting capabilities. . . . Combatant commanders would like even more such inherent capacity.

General George W. Casey, Jr., Army Chief of Staff,
National Press Club, 14 August 2007

Army aviation—rotary-wing, unmanned aircraft systems (UAS) and fixed-wing—has been at the forefront of wartime and peacetime operations in the 21st century. Army aviation provides the land component and joint force commanders an agile, powerful and versatile capability across the full spectrum of military operations. To restore necessary depth and breadth to its capabilities and build essential capacity for the future, Army aviation is transforming to a modular structure, honing tactics, techniques and procedures and combat-testing the latest technologies while supporting missions at home and abroad. Exploiting the vertical dimension of landpower—the manned and unmanned platforms of Army aviation—is crucial to the nation's continued ability to control land and influence people and populations on the battlefields of the 21st century.

An August 2003 review led to the capstone aviation plan that, with minor modifications, still serves as the aviation roadmap today. Several key directions emerged:

- reorganizing Army aviation force structure into robust divisional aviation brigades that can be readily task-organized to support a brigade combat team (BCT)-centric fight;
- modernizing the aviation fleet to stay abreast of technology and recapitalize older airframes;
- investing in survivability equipment and munitions that allow crews to fight successfully in the war on terrorism and in future operations;
- establishing a modular force that can be both tailored to the mission and sustained forward; and
- expanding the Army's use of UAS in the total force.

To better align resources with the plan, in February 2004 the Army decided to cancel the Comanche helicopter program, thus providing $14 billion required to address transformational capabilities.

To enhance readiness, Army aviation transformed from a dispersed theater, corps and divisional force structure of small aviation brigades into robust, modular division-centric combat aviation brigades (CABs). Eleven active and eight reserve component CABs now fully support BCTs. These CABs are organized multifunctionally in four variants—Heavy, Medium, Light and Expeditionary—sharing a common design for the headquarters and the assault, general support and aviation support battalions, but varying in their assigned mix of attack/reconnaissance or security and support battalions. These CABs are considerably larger than the former heavy or light division aviation brigades, and the numbers of aircraft and personnel have almost doubled. For the six Army National Guard divisions, the CAB (Expeditionary) includes a UH-72 Lakota-equipped security and support battalion deployable to noncombat environments. After nearly five years of fighting in both Iraq and Afghanistan, the goal is to increase the number of medium CABs from four to seven. To enhance control and coordination, every heavy BCT and infantry BCT receives a brigade aviation element (BAE), while each Stryker BCT and fires brigade receives a smaller version of the BAE. The BAE provides 24-hour operational capability to plan and synchronize aviation operations and Army airspace command and control (A2C2).

Beyond manned platforms, UAS are changing the face of modern warfare by dramatically extending battlefield awareness and expediting the engagement and destruction of targets. Army UAS combine the capabilities of the persistent view of an area, precise target designation, instant assessment of attack results and rapid destruction of fleeting targets.





These unique capabilities significantly increase the ground commander's situational awareness, reduce the "sensor-to-effects" timeline and minimize risk to Soldiers. UAS have now become an integral part of the land component commander's ability to conduct reconnaissance, attack and many other critical missions. The Army UAS strategy consists of Soldier/operator; One System Ground Control Station (OSGCS); One System Remote Video Transceiver (OSRVT); Raven; Shadow; and the Sky Warrior (Extended Range/Multi-Purpose) UAS. With more than 400 UAS deployed in support of the war on terrorism and more than 377,000 combat hours flown, the Army has effectively integrated and synchronized organic, on-demand, multipurpose UAS into the ground commander's reconnaissance, surveillance and target acquisition operations.

Beyond UAS and, in particular, Sky Warrior, the investment in advanced technology derived from the termination of Comanche has significantly enhanced capabilities across all aviation systems. Comanche dollars have been reinvested in modernizing the fleet and improving capability. The Army has selected the ARH-70 Arapaho armed reconnaissance helicopter (ARH) and the C-27J Joint Cargo Aircraft (JCA), which replaces the aging C-23 Sherpa fleet. It has delivered the UH-72A Lakota light utility helicopter, the UH-60M Black Hawk utility helicopter variant and the CH-47F Chinook cargo helicopter variant, and has established programs of record for the AH-64D Apache Longbow Block III and the small unmanned air vehicle. Prior to its termination, the Comanche was to replace the aging OH-58D Kiowa Warrior (KW) and improve the capabilities of this system to provide commanders an excellent armed-reconnaissance platform. The need for a new replacement for the OH-58D KW still existed; the ARH-70A Arapaho program was established to fill this capability gap. When fielding is complete, there will be 512 ARH-70A aircraft in the Army in the active component and the Army National Guard, including the four National Guard battalions currently equipped with the AH-64A. Another platform that will soon join the Army ranks is the JCA, a responsive system critical to the future logistical needs of the Army. The JCA will perform airlift missions in support of the Joint Force Commander (JFC) in a joint operations area at a time and place of the JFC's choosing to achieve strategic, operational and tactical objectives. The JCA will operate in both a general support and direct support relationship to meet the JFC's overall objectives. The primary mission of the Army JCA is to transport Army time-sensitive mission-critical cargo and personnel to forward-deployed units, often in remote and austere locations.

The needs of the Soldier on the move and the commander's reconnaissance, surveillance and target acquisition will be met in the future through product improvements to the Raven and Shadow systems, equipping the force with Sky Warrior Extended Range/Multi-Purpose UAS starting in FY 2009 and development of the Class I and IV UAS for the Future Combat Systems BCT. The Army's need for organic UAS and the JCA were recently validated by several Joint Requirements Oversight Council (JROC) sessions and Deputy Secretary of Defense decisions. In the manned aircraft arena, future needs are currently being explored in two major programs: the Joint Heavy Lift (JHL) aircraft and the Joint Multi-Role (JMR) aircraft.

An era of persistent conflict ultimately means an era of persistent engagement for Army forces and, in particular, Army aviation. Exploiting the vertical dimension of landpower—the manned and unmanned platforms of Army aviation—is an imperative for success in current and future engagements in the 21st century. **The Army has a comprehensive, effective plan to exploit these capabilities now and in the foreseeable future.** However, to sustain, prepare, reset and transform Army aviation for the future, what is needed are selective policy changes and timely, predictable resourcing of current and future aviation requirements.





U.S. Army Aviation: Balancing Current and Future Demands

Aviation assets are absolutely critical to the ground commander's success . . .

Then Major General David H. Petraeus, Commanding General,
101st Airborne Division (Air Assault), May 2004

Introduction

More than six years after the events of 11 September 2001, the U.S. Army remains decisively engaged in major combat operations in the war on terrorism. Army aviation—rotary-wing, unmanned aircraft systems (UAS) and fixed-wing—has been at the forefront of these operations. At any given time, approximately one-third of the Army's combat aviation forces—more than 700 aircraft/systems—are deployed worldwide. The recent surge of Army forces in Operation Iraqi Freedom increased demands on Army aviation in supporting the needs of the combatant commander. Flight operations in theater have exceeded the peacetime rate by four to five times.

Persistent conflict—protracted confrontation among state, non-state and individual actors using violence to achieve their political and ideological ends—will continue through the next several decades. In that environment, Army forces must be agile enough to respond rapidly to unexpected circumstances. **Exploiting the vertical dimension of landpower—the manned and unmanned platforms of Army aviation—is crucial to the nation's continued ability to control land and influence people and populations on the battlefields of the 21st century.**

As recent events around the world have illustrated, Army aviation provides the land component commander an agile, powerful and versatile capability across the full spectrum of military operations, from homeland defense and disaster relief, to peace enforcement and combat operations in support of the war on terrorism. To restore necessary depth and breadth to its capabilities and build essential capacity for the future, Army aviation is transforming to a modular structure, honing tactics, techniques and procedures and combat-testing the latest technologies while supporting missions at home and abroad. Army aviation seeks to maintain the critical balance between providing a warfighting capability to combatant commanders and the equally vital task of preparing for the future.

Background

In early 1991, in the opening hours of Operation Desert Storm, an Apache airstrike on an Iraqi radar site not only paved the way for early-entry special operations forces but also reinforced the importance of Army aviation as an integral and indispensable component of dominant landpower. As Operations Enduring Freedom (OEF) and Iraqi Freedom (OIF) unfolded 10 years later, the Army realized the need to refocus its aviation assets on core competencies that supported the land force commander in a nonlinear, distributed battlefield and on areas that could bring the vertical capabilities of aviation to bear on an enemy across the entire range of operations. In August 2003, it conducted a bottom-up review of aviation modernization and transformation to ensure the aviation force would be properly aligned with the Army's vision for the future. That review led to the capstone aviation plan that, with minor modifications, still serves as the aviation roadmap today. Several key directions emerged:

- reorganizing Army aviation force structure into robust divisional aviation brigades that can be





readily task-organized to support a brigade combat team (BCT)-centric fight;

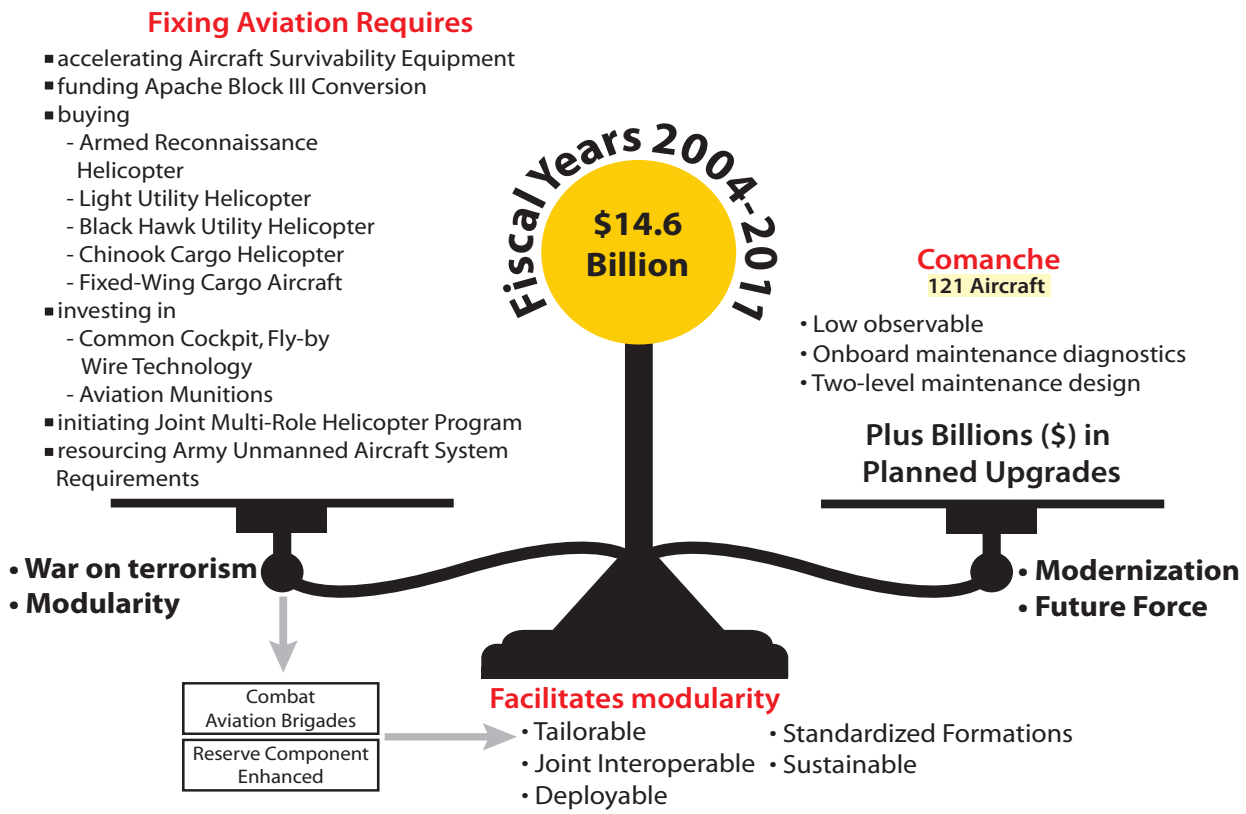
- modernizing the aviation fleet to stay abreast of technology and recapitalize older airframes;
- investing in survivability equipment and munitions that allow crews to fight successfully in the war on terrorism and in future operations;
- establishing a modular force that can be both tailored to the mission and sustained forward; and
- expanding the Army's use of UAS in the total force.

With the Army's senior leadership looking for funding solutions to achieve the key components of transformation, it became apparent that Army aviation would need to make adjustments to existing programs to afford the necessary changes. In February 2004, the Army decided to cancel the Comanche helicopter program, thus providing the $14 billion required to address transformational capabilities.

Those Comanche dollars have been reinvested in modernizing the fleet and improving capability. The Army has selected the ARH-70 Arapaho armed reconnaissance helicopter (ARH), the Sky Warrior UAS and the C-27J Joint Cargo Aircraft (JCA), which replaces the aging C-23 Sherpa fleet. It has delivered the UH-72A Lakota light utility helicopter, the UH-60M Black Hawk utility helicopter variant and the CH-47F Chinook cargo helicopter variant, and has established programs of

The Comanche Decision

Fixing Army Aviation While Supporting Combat Operations



Source: Headquarters, Department of the Army





record for the AH-64D Apache Longbow Block III and the small unmanned air vehicle.

Army aviation has been transforming and modernizing to improve capabilities to meet current and future full-spectrum operational demands. At the heart of these efforts are the division aviation brigades. By converting to a modular structure, they have provided the framework for the Army to enhance its current aviation readiness and facilitate rapid insertion into the force of new technologies as they mature.

Aviation Modularity: Enhancing Readiness

The Army has transformed from a division-structured force into a globally responsive Army of modular units centered on the brigade combat team.[1] Army aviation also transformed from a dispersed theater, corps and divisional force structure of small aviation brigades into robust, modular division-centric combat aviation brigades (CABs). Eleven active and eight reserve component CABs now fully support BCTs and provide a potent and rapidly tailorable force. (Note: Remaining aviation assets are found at the theater level.) These CABs are organized multifunctionally with a modular command and control headquarters and with attack/reconnaissance and/or security and support, assault, general support and aviation support battalions. There are four variants of CABs, all of which can perform aviation missions across the entire operational spectrum with minimal tailoring. These variants—Heavy, Medium, Light and Expeditionary—share a common design for the headquarters and the assault, general support and aviation support battalions, but vary in their assigned mix of attack/reconnaissance or security and support battalions. All CABs will receive a Sky Warrior UAS company.

By design, the bulk of the Army's aviation combat power resides in CABs. Each CAB, with its four operational aviation battalions and an organic aviation support battalion (ASB), is optimized to conduct and support sustained tactical operations. These battalions contain the first level of staff planning, integration, coordination and sustainment for aviation in combined-arms operations. They are normally the lowest-level aviation units that operate independently or autonomously for any extended period of time, and then only with required support from the aviation brigade and augmentation from the aviation support battalion. Under modularity, aviation battalions are designed to operate with flight companies dispersed at more than one location within the same area of operations and the battalion headquarters at yet another location.

The CAB is considerably larger than the former heavy or light division aviation brigades, and the numbers of aircraft and personnel have almost doubled. The CAB has organic assets that were previously attached from corps or echelons-above-corps units. The new organization provides enhanced support to BCTs because it is better able to establish habitual relationships with these ground units. In addition, unlike the former division aviation brigade, the CAB has the aforementioned ASB, an air traffic service company and a signal company, together with a significantly improved brigade headquarters capable of conducting mobile strike operations. In addition, medical evacuation and CH-47 aviation companies formerly organic to corps battalions are now organized into companies of 12 aircraft each, organic to the CAB's general support aviation battalion. In the near future, as Sky Warrior is fielded, each CAB will also have an organic Sky Warrior company. For the six Army National Guard divisions, the CAB (Expeditionary) includes a UH-72 Lakota-equipped security and support battalion deployable to noncombat environments.

[1] See AUSA's Torchbearer National Security Report "2006 and Beyond: What the U.S. Army is Doing," March 2006, available online at http://www.ausa.org/PDFdocs/TBSecRpt/TBear_March_06_optimized.pdf.

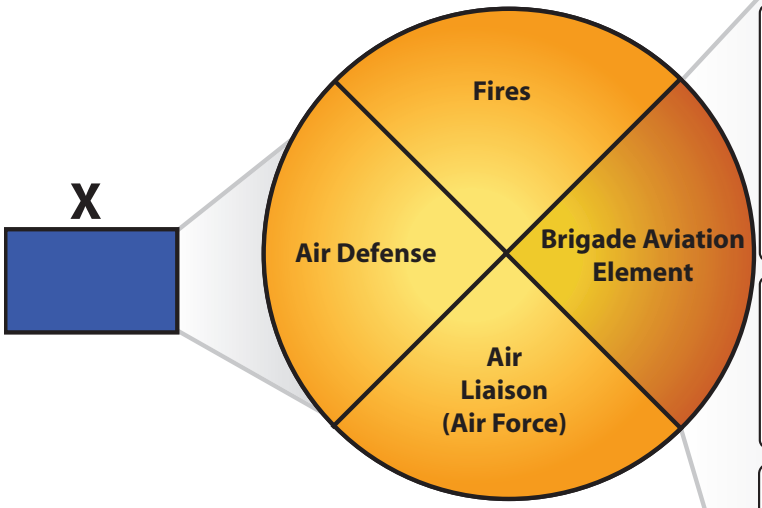




After nearly five years of fighting in both Iraq and Afghanistan, the demands from theater commanders have shown a need for the Army to rebalance its aviation structure for fewer heavy and light CABs and more medium CABs. Currently, the Army has only four medium CABs within its fleet of 19 CABs, due to an imbalance in AH-64D and OH-58D Kiowa Warrior units. The goal is to increase the number of medium CABs from four to seven, thereby increasing overall flexibility. To do this, the Army is transferring cavalry squadrons from the two light CABs and attack battalions from two heavy CABs to form three additional medium CABs. The medium CAB formation provides the greatest flexibility to conduct operations, with both AH-64 Apache and OH-58D Kiowa Warrior attack companies. As another benefit, the medium CAB structure is more modular than the heavy or light CAB due to its ASB. In a medium CAB, the ASB has both AH-64 mechanics and tools and OH-58D mechanics and tools. This allows the medium CAB to incorporate any Army aviation unit into its structure.

To enhance control and coordination, every heavy BCT and infantry BCT receives a brigade aviation element (BAE), while each Stryker BCT and fires brigade receives a smaller version of the BAE. Much like a brigade fire support element, the BAE provides 24-hour operational capability to plan and synchronize aviation operations and Army airspace command and control (A2C2) to set the conditions for success through the combined-arms integration of aviation into the land component commander's scheme of maneuver. In the past, ad hoc Army aviation liaison teams provided aviation expertise to ground commanders in their tactical operations centers. Aviation support was hastily planned and poorly tracked during mission

Brigade Aviation Element



Supporting the Warfighter
- Training Circular 1-400, BAE Handbook
- BAE Reference Library
- BAE training with deploying units
- BAE training with transforming brigade combat teams
- Integration of BAE tasks in Infantry/Armor Mission Training Plans
- Integration of BAE training into Training and Doctrine Command Professional Military Education

Synchronizing Air-Ground Integration
- Each maneuver HBCT/IBCT
- MTOE resourced—not ad hoc
- Synchronizes aviation operations
- Responsible for A2C2
- ABCS Communications

Consisting of:

MAJ	Brigade Aviation Officer
CPT	Plans Officer
CW3	Aviation Tactical Operations Officer
SFC	Flight Operations/A2C2
SSG	Flight Operations/UAS
SPC	Flight Operations/RTO

LEGEND

MAJ = Major
CPT = Captain
CW3 = Chief Warrant Officer 3
SFC = Sergeant First Class
SSG = Staff Sergeant
SPC = Specialist

A2C2 = Army Airspace Command and Control
UAS = Unmanned Aircraft Systems
RTO = Radio Telephone Operator
HBCT = Heavy Brigade Combat Team
IBCT = Infantry Brigade Combat Team
MTOE = Modified Table of Organizational Equipment
ABCS = Army Battle Command System

Source: Headquarters, Department of the Army





execution due to a lack of aviation-specific radios, an aviation battle command system and knowledgeable personnel to operate and provide advice to the BCT commander. The BAE, in conjunction with the other members of the A2C2 team, is designed to perform the same functions as the division-level A2C2 cells, providing a capability to interface with joint assets as well as with a joint headquarters.

The Army continues to effectively and efficiently transform, modernize and station its aviation units to maintain a modular, sustainable, deployable and lethal force that can execute the full range of mission sets both at home and abroad as reflected in the 2006 Quadrennial Defense Review. To do so, it has a readiness tool—Army Force Generation (ARFORGEN)—to enable senior Army leaders and decisionmakers to resource the manning, training and equipping of all Army units to meet operational needs and identify any capability shortfalls. Anticipating a future of persistent conflict and meeting the dwell-time goals of one deployment every three years for the active component and one deployment every four or five years for the reserve component requires fully resourcing all components. Modularity significantly facilitates this resourcing. Within aviation modularity, the ARFORGEN model leverages these new unit designs and operational cycles to provide a sustained deployment posture of operationally ready units with less uncertainty, while retaining the capability to surge combat power as necessary. This model, through a structured progression of increased aviation unit readiness over time, provides recurring periods of availability of trained, ready and cohesive aviation units prepared for operational deployment in support of civil authorities and land component commander requirements.

By effectively establishing priorities in training, equipping, manning and readiness, aviation commanders can better prepare and resource units for their assigned or anticipated missions. Units may advance more rapidly or more slowly through the ARFORGEN process based on mission requirements, resourcing and/or command directives. In addition, certain types of units—e.g., medical evacuation, fixed-wing, theater aviation sustainment maintenance—may advance through the ARFORGEN process more rapidly than their parent units based on higher operational requirements. To better support the maintenance requirements in theater, the four aviation classification repair activity depots are converting to theater aviation sustainment





maintenance groups to provide more deployable maintenance. These units are high-demand/low-density, and some may exceed manageable rotation rates and therefore require selective management. Dependent on an operational need to surge or reach back to units in the ready force pool, additional resources may be applied and a unit's progress through the ARFORGEN may be accelerated.

The ARFORGEN model allows Army aviation to effectively manage the integration of reserve component and active component CABs. Changes to recent policies regarding tour lengths in theater and reserve mobilization policies have forced Army aviation to adjust plans under the ARFORGEN process. In early 2007, the Secretary of Defense established a new policy limiting reserve component mobilization to 12 months. At the same time, the Army Chief of Staff implemented a 15-month tour policy for active component Army units to ensure units would have at least 12 months at home before their next deployment as the Army surged forces in Iraq. CABs in the active component now deploy into theater for 12 to 15 months. The Army strives to achieve an eight- to nine-month deployment goal for Army National Guard CABs to facilitate post-mobilization training and post-deployment tasks.

The new mobilization policy poses a unique challenge to reserve component units who are undergoing aircraft fielding to modernized aircraft. These units require significantly longer training periods following mobilization to train on their new systems, which will greatly impact the Army's ability to send them into theater for any significant tour without breaking the 12-month mobilization policy. The Army is working to allow the full training time needed to field the new aircraft to these units while also preserving an eight- to nine-month deployment period to provide the needed capability in theater. Experience is showing that the Army's historical method of resourcing the Army National Guard and Army Reserve attack battalions at approximately 75 percent strength in personnel and equipment poses challenges in preparing these units for their deployments and inhibits a balance of the deployment burden between the active and reserve components. Each deployment of an Army National Guard CAB requires deploying an additional AH-64 company from a different CAB, thus reducing that unit's ability to deploy. The ARH aircraft entering the force structure will offer an opportunity to partially correct the imbalance in attack battalions and resourcing differences between components.

In the past five years, the strains of sustained combat have taxed aviation just as they have the rest of the Army. The demand for resetting returning aircraft as they leave the theater is at an all-time high (more than 2,000 helicopters have completed reset; 500 are in progress; 400 will receive reset upon return). Army aviation is responding to institutional training demands from both the active and reserve components by increasing flight school and specialty aircraft training seats. Successful execution of this strategy will fully man units and allow for a greater rotational pool from which to support future operations. Army Training and Doctrine Command (TRADOC) has revised all of the aviation base field manuals and fully integrated a new training program called Flight School XXI for all initial-entry rotary-wing students.

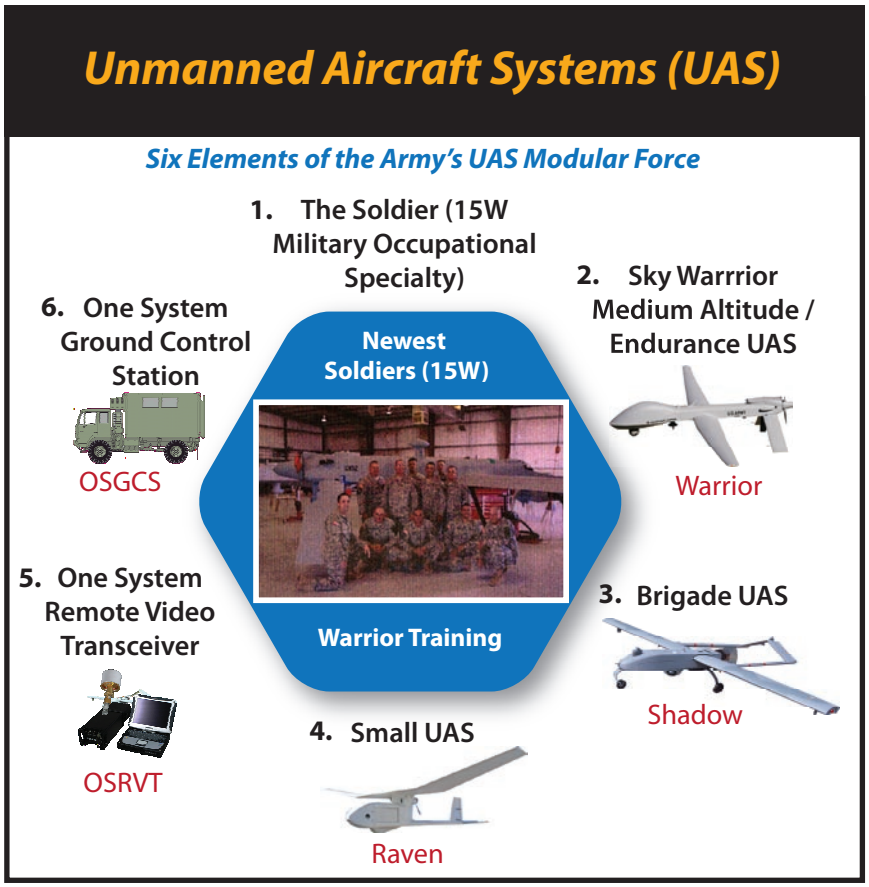
In 2008, the Army is simultaneously supporting the war on terrorism and striving to sustain the training requirements both in the institutional Army and for preparing subsequent rotational forces—including the Army National Guard and Army Reserve—for deployment. The Army is reviewing policies regarding allocation of aircraft, school quotas, reset and preset maintenance facilities, and training locations to ensure the total aviation force is prepared for deployment and





refitted quickly upon return from theater. Funding the increase in Flight School XXI training seats to 1,458 per year by 2010 and continuing the modernization strategies to equip Army National Guard and Army Reserve units at 100 percent of their authorizations are examples of critical enablers that will help in the ARFORGEN process and achieve a balance in deployments for aviation.

All of this is possible due in large measure to the Army's vision of transforming its aviation to a modular structure. The Army continues to enhance aviation operational readiness as lessons from Operation Enduring Freedom and Operation Iraqi Freedom are incorporated and as technology and programs reach fruition. One of the enduring capabilities emerging on the battlefields of the 21st century involves unmanned aircraft systems—a new element of Army aviation.



Source: Headquarters, Department of the Army

Unmanned Aircraft Systems

> *The advances you have underwritten in weapons systems and individual equipment; in munitions; in command, control, and communications systems; in intelligence, surveillance, and reconnaissance capabilities; in vehicles and counter-IED systems and programs; and in* ***manned and unmanned aircraft*** *[emphasis added] have proven invaluable in Iraq.*
>
> General David H. Petraeus
> Commander, Multi-National Force-Iraq,
> Report to Congress on the Situtation in Iraq,
> 10-11 September 2007

Until a few years ago, Army aviation was a manned rotary- and fixed-wing force. Commanders viewed unmanned systems primarily as drones and expendable assets. Today, unmanned aircraft systems are changing the face of modern warfare by dramatically extending battlefield awareness and expediting the engagement and destruction of targets. Army UAS combine the capabilities of the persistent view of an area, precise target designation, instant assessment of attack results and rapid destruction of fleeting targets. These unique capabilities significantly increase the ground commander's situational awareness, reduce the "sensor-to-effects" timeline and minimize risk to Soldiers. UAS have now become an integral part of the land component commander's ability to conduct reconnaissance, attack and many other critical missions.

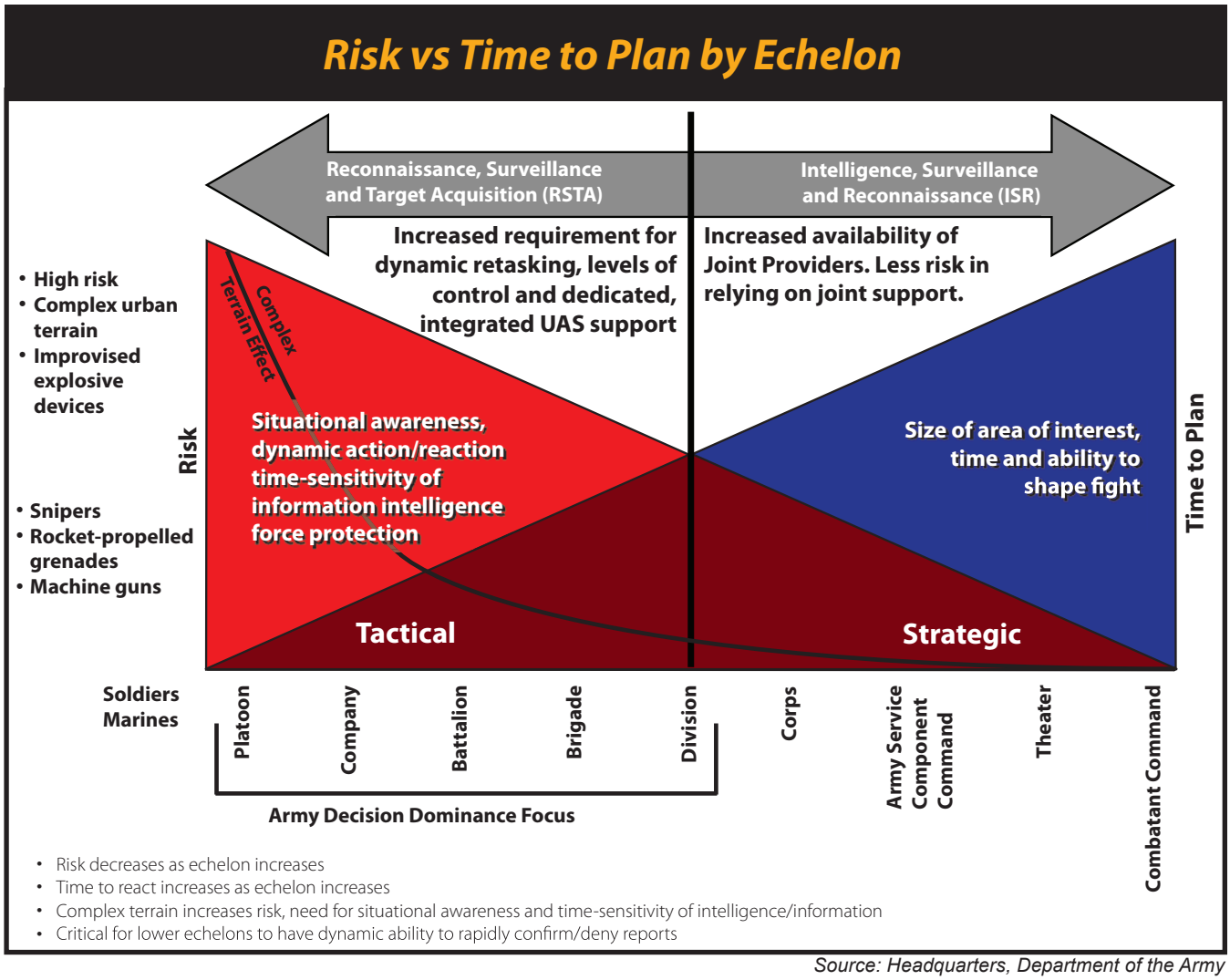
The Army UAS strategy embraces the principles of modularity to create more adaptable, flexible, robust and reliable organizations, which are better able to operate within dynamic, complex and unpredictable environments. The following elements comprise this strategy:





- Soldier/operator;
- One System Ground Control Station (OSGCS);
- One System Remote Video Transceiver (OSRVT);
- Raven;
- Shadow; and
- Sky Warrior, the Extended Range/Multi-Purpose UAS that are capable, direct-support assets to meet planned airborne reconnaissance, surveillance and target acquisition (RSTA) requirements.[2]

Six years of combat operations in Iraq and Afghanistan have reinforced the need to maximize this UAS strategy with all elements of combat power at the tactical level. This strategy facilitates the effective and efficient integration of UAS capabilities at the tactical level of operations/warfare to achieve the desired effects on the battlefield inside the enemy's decision cycle. With UAS to the BCT and CAB, the ground commander receives critical flexibility in the scheme of maneuver. Operators train and fight with their organic headquarters, allowing a synergistic and decentralized mission

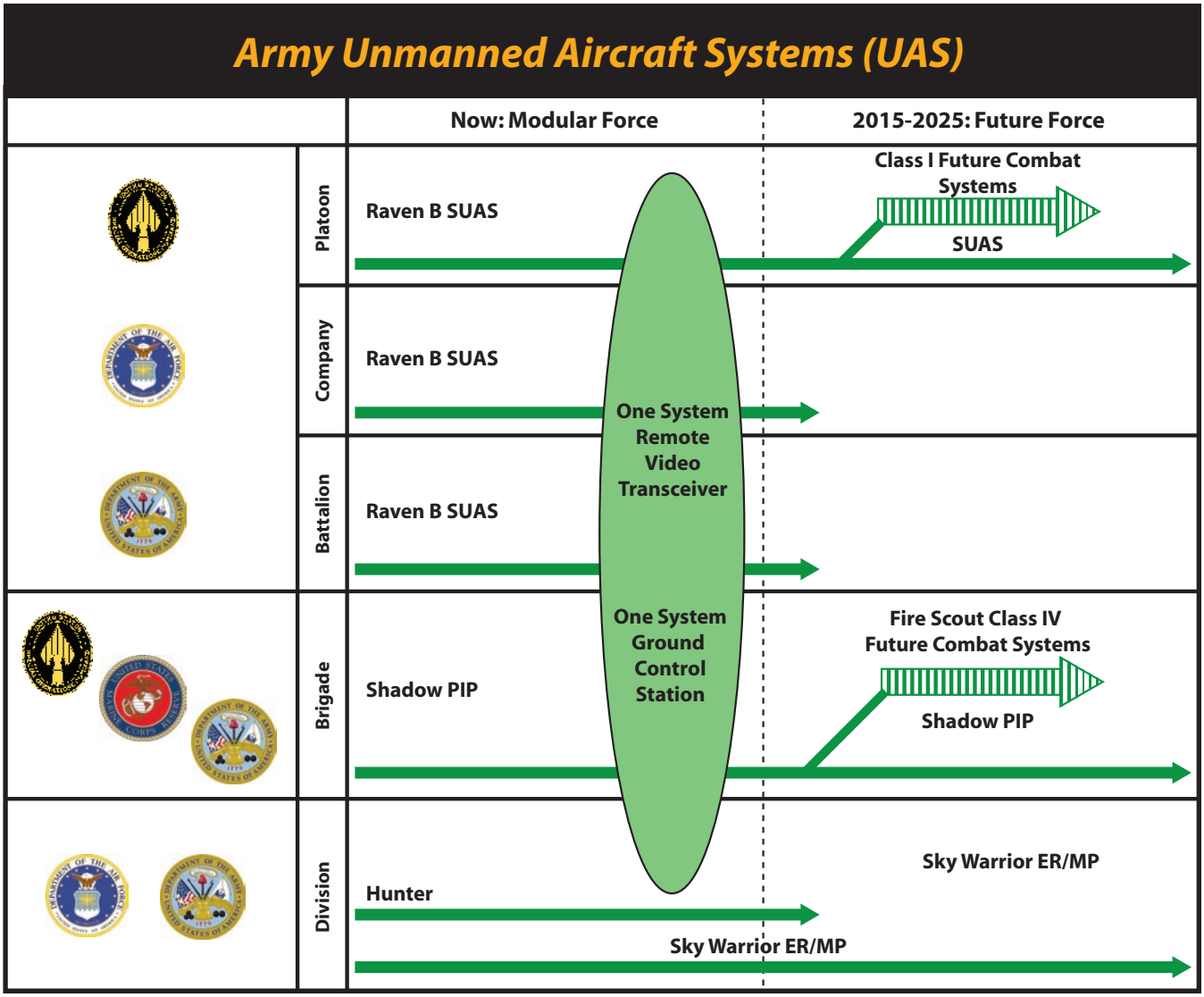


Source: Headquarters, Department of the Army

[2] See AUSA's Torchbearer Issue Paper "Army Unmanned Aerial Vehicle Systems: A Cost-Effective Combat-Multiplier," April 2004, for detailed descriptions of Hunter, Shadow, Raven and Sky Warrior UAS, available online at http://www.ausa.org/PDFdocs/UAVS.pdf.







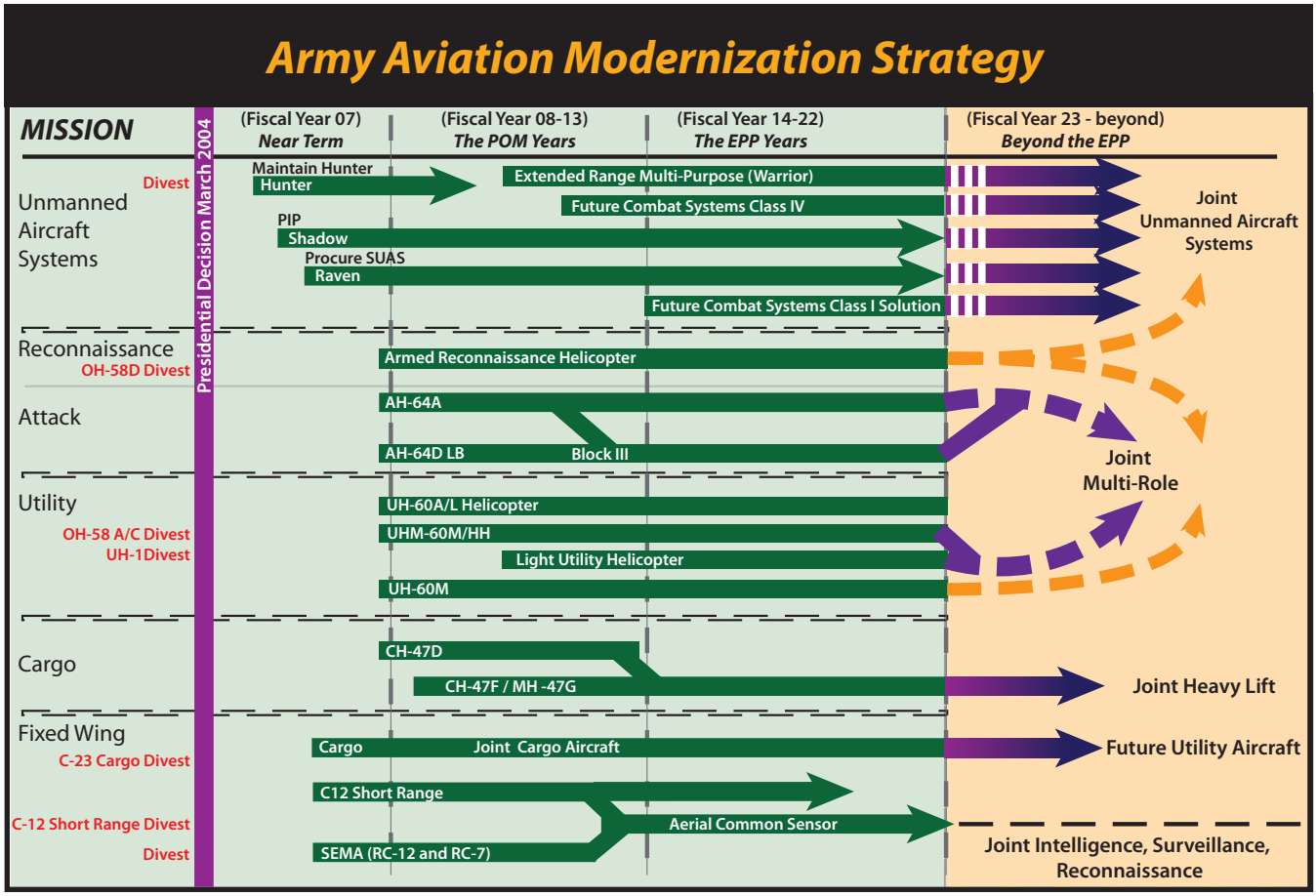
Legend: SUAS = Small Unmanned Aircraft Systems PIP = Product Improvement Program ER/MP = Extended Range/Multi-Purpose *Source: Headquarters, Department of the Army*

execution. The BCT and CAB have organic manned and unmanned assets readily at their disposal for manned/unmanned teaming—air-to-air, air-to-ground and ground-to-air. This dynamic "sensor to shooter" link provides the capability to find, fix and neutralize targets, increasing standoff ranges of rotary-wing aircraft and thereby improving aircraft survivability and reducing the threat to the "man in the loop." Through the use of organic payloads, including communications relay, advanced electro-optic/infrared and laser designators, synthetic aperture radar and kinetic munitions, the UAS can locate a target and provide persistent stare while communicating directly to higher headquarters, the Soldier on the move and other unmanned or manned systems. They provide initial target identification as part of the positive identification process, pass locational information to either ground or airborne systems, conduct persistent surveillance and reduce gaps/seams in the ground commander's area of operations.

Army UAS, embedded in tactical organizations and in direct support of the Soldier, provides leaders at all levels unprecedented situational awareness,







LEGEND: EPP = Extended Planning Program SUAS = Small Unmanned Aircraft Systems PIP = Product Improvement Program

Source: Headquarters, Department of the Army

allowing the identification of both dangers and fleeting opportunities in irregular warfare. Equally vital are the more than 600 OSRVTs and OSGCSs **(See discussion of OSRVTs and OSGCS in following section)** deployed that provide the situational awareness to achieve effects down to the platoon-leader level. The Army has demonstrated the decisive benefits of employing UAS at the tactical level in concert with other air and ground systems to enable greater lethality while reducing fratricide

> The Army's Hunter unmanned aerial vehicle recently scored its first combat kill by blowing up two Iraqi insurgents with a smart bomb. . . .
>
> The landmark bombing took place Sept. 1 near Qayyarah, Iraq, in Nineveh province after a scout team spotted the two enemy fighters and radioed in the Hunter strike. It was the first time an armed Hunter, a twin-tail drone that can fly for up to 15 hours and at heights of up to 20,000 feet, made such a kill.
>
> "It's very humbling to know that we have set an Army historical mark in having the first successful launch in combat from an Army weaponized [unmanned aircraft system]," said Capt. Raymond Fields, commander, Unmanned Aerial Surveillance Company.
>
> "We will see more weaponized Army unmanned vehicles being used instead of manned platforms to save not only our aviator brethren but our Army ground brethren from enemy contact."
>
> — From Bill Gertz, "Inside the Ring," *Washington Times*, 14 September 2007, p. 7





and collateral damage. With more than 400 UAS deployed in support of the war on terrorism and more than 377,000 combat hours flown (as of 27 November 2007), the Army has effectively integrated and synchronized organic, on-demand, multipurpose unmanned aircraft systems into the ground commander's reconnaissance, surveillance and target acquisition operation.

Richness of Technology

Army aviation continues to evolve as it builds improved capabilities for existing platforms and begins to develop new platforms able to meet Army needs in the late 21st century. The investment in advanced technology derived from the termination of Comanche has significantly enhanced capabilities across all aviation systems. These capabilities are applicable to all four Army modernization tenets: fighting the war on terrorism, creating modularity in the aviation force, continuing modernization of the fleet and investing in developing the future force. The Army's senior leadership is committed to providing Soldiers with the best available equipment to both protect them and maintain a technological overmatch/advantage over any enemy.

Aircraft survivability systems protect crews and aircraft and consequently have the highest priority in the technology development effort.

The accelerated development and fielding of the common missile warning system (CMWS) had a significant effect protecting aircrews in Iraq and Afghanistan. Beginning in 2005, every rotary-wing aircraft that deployed into theater was equipped with this defensive system, and it is now included on all fixed-wing aircraft that deploy to theater as well. This system has given aircrews the ability to use different tactics, techniques and procedures to prosecute the fight and added to the capabilities of these airframes. The delivery of this system was accelerated by years because of the investment from the Comanche program. Continued investment will have future impacts on the development, qualification and fielding of a fifth sensor, the installation of which will further enhance the capabilities of all airframes and will give the aircrews and commanders additional freedom of maneuver. Army aviation is continuing to evolve defensive systems with emphasis on infrared suppression systems on airframes as well as active defense measures, such as advanced threat infrared countermeasures (ATIRCM).

The remanufacturing of the AH-64A Apache to the AH-64D Apache Longbow configuration is vital and is scheduled to be completed by 2011; the last four National Guard battalions of AH-64As will be divested within six years of that date when they receive the ARH. Deliveries of AH-64Ds to both Army National Guard and Army Reserve units will complete the Apache Longbow fleet fielding plan. While the fielding of the Longbow Block II version of this system is ongoing, additional capability is being added "on the fly" as it becomes mature enough for employment in the field. The modernized target acquisition and designation system is an optical system that provides flight crews a significant increase in visual acuity under both day and night conditions that is much clearer for both piloting and target acquisition. Fielding started in 2005 on Apache Longbows and will be complete in 2011.

Another technology that has been accelerated into near-term Apaches is the ability to send video





from a UAS to the cockpit of the AH-64D. The ability to see what a UAS is seeing—as well as the ability to send video from the cockpit of the Apache to a station on the ground—is currently being tested for fielding in 2008. This manned-unmanned teaming will significantly improve sensor-to-shooter timelines, improve effects on the enemy and severely limit enemy freedom of maneuver while mitigating risks to aircrews. The Longbow Block III, representing the next technological jump in the evolution of the AH-64 fleet, will be initially fielded beginning in 2011. Block III will provide a net-ready capability that integrates the Apache into the future combat force. Advances in technology will provide the Block III with improved unmanned aircraft system interoperability, weight reduction initiatives, open systems architecture and reduced pilot workload via cognitive decision aiding technologies. At the end state, the AH-64 fleet will consist exclusively of AH-64 Longbow Block IIIs with a total of 634 aircraft.

The UH-60M version and the HH-60M Medical Evacuation (MEDEVAC) variant will begin fielding in 2008. This new version of the UH-60 will extend the fleet's lift and range capabilities, reduce operating and support costs, improve transportability, enhance survivability, integrate the Air Warrior system, digitize the avionics suite, digitize the flight management systems that incorporate global air traffic management requirements and extend the life of the aircraft. These two variants are expected to meet utility and MEDEVAC mission requirements through at least 2025. While the initial UH-60M fielded in the 159th CAB in 2008 has tremendous capabilities, the program has even more enhancements in development for future units. The accelerated development of new technologies has resulted in an upgrade program for the UH-60M that will include fly-by-wire flight controls, the Common Avionics Architecture System (CAAS) and full-authority digital engine control. These capabilities will be relevant for the aviation and ground commanders for decades into the future.

The CH-47F Chinook will remain the Army's heavy lift helicopter until at least the 2030 time frame. The F-model Chinook, a significant upgrade to the CH-47D, has already been fielded to the first unit and will be employed in combat for the first time next year. This recapitalization program will provide an aircraft that is more reliable, less costly to operate and compatible with joint digital connectivity requirements of the future combat force with an extended life of approximately 20 years. Key modifications for this airframe include a new machined airframe, an upgraded engine to restore performance capability and digital avionics. In addition, the continued investment of Comanche dollars into accelerating technology and purchasing more airframes has provided this aircraft with enhanced air transportability, a digital automatic flight control system and an extended-range fuel system





for self-deployment missions. It will also incorporate reliability and maintainability improvements, including airframe tuning for vibration reduction, corrosion protection, a digital source collector and an automated maintenance program with a 400-hour phase interval. This recapitalization program rebuilds and upgrades all CH-47Ds and MH-47Ds and incorporates newly built aircraft to achieve an end state of 513 CH-47F/MH-47G airframes for the force.

Prior to its termination, the Comanche was to replace the aging OH-58D Kiowa Warrior (KW) and improve the capabilities of this system to provide commanders an excellent armed-reconnaissance platform. With the Comanche cancellation, the need for a new replacement for the OH-58D KW still existed; the ARH-70A Arapaho program was established to fill this capability gap. While it looks similar to an OH-58D KW, the ARH-70A will have significantly enhanced capabilities when it finally replaces the OH-58D KW. The mission of this aircraft is to conduct armed aerial reconnaissance and attack in support of the ground commander as an integral part of the team. (Note: In the last year, the Army and Bell/Textron were forced to restructure the program due to an overaggressive schedule and problems in developing the aircraft. The restructured development phase of acquisition completed its first user's tests in FY 2008, with a planned first unit equipped in FY 2011.) When fielding is complete,

there will be 512 ARH-70A aircraft in the Army in the active component and the Army National Guard, including the four National Guard battalions currently equipped with the AH-64A.

Because of the decision to terminate the Comanche and the subsequent delay fielding the ARH-70A, the OH-58D KWs continue to fly as a relevant member of the combat aviation brigade for years beyond the original intent. To accomplish this and provide aircrews the platform they deserve, a concerted effort and investment has been made not only to extend the life of these aircraft but to incorporate new technology to keep it integrated with the warfighter. Some examples of this continuing effort are the upgrade of the Cockpit Display System, incorporation of weight reduction initiatives, addition of a full-authority digital engine control, and the application of cockpit airbags and enhanced survivability seats.

Another platform that will soon join the Army ranks is the JCA. This responsive system is critical to the future logistical needs of the Army. The JCA will perform airlift missions in support of the Joint Force Commander (JFC) in a joint operations area at a time and place of the JFC's choosing to achieve strategic, operational and tactical objectives. The JCA will operate in both a general support (GS) and direct support (DS) relationship to meet the JFC's overall objectives. The JFC determines air capabilities





and forces made available for joint air operations in consultation with component commanders. Some JCAs will remain in the common user pool as GS under control of the Joint Force Air Component Commander (JFACC), while the rest will be DS to the ground component commander. The primary mission of the Army JCA is to transport Army time-sensitive mission-critical (TSMC) cargo and personnel to forward-deployed units, often in remote and austere locations. Because of the critical nature of this cargo to the success of the tactical ground commander's mission and the short-notice of its need

Combat Aviation Brigade Force Structure

Current

	Combat Aviation Brigade	Assault	General Support Aviation Battalion	AH-64 Attack	OH-58 / ARH*	Service and Support	Aviation Support Battalion	Unmanned Aircraft Systems
Heavy	7	7	7	14	0	0	7	1
Medium	4	4	4	4	4	0	4	0
Light	2	2	2	0	4	0	2	0
Expeditionary	6	6	6	6	0	6	6	0

Fiscal Year 2011 Objective

	Combat Aviation Brigade	Assault	General Support Aviation Battalion	AH-64 Attack	OH-58 / ARH*	Service and Support	Aviation Support Battalion	Unmanned Aircraft Systems
Heavy	6	6	6	12	0	0	6	5
Medium	7	7	7	7	7	0	7	6
Light	0	0	0	0	0	0	0	0
Expeditionary	6	6	6	2	4	6	6	0

* Armed Reconnaissance Helicopter. The OH-58 helicopter will be replaced by the future ARH. During the transition period there will be some units with OH-58 and some with ARH, but both will be doing the same mission. At some point in the future the block would have only ARH.

Source: Headquarters, Department of the Army





(usually less than 24 hours), lift assets must be in the direct support relationship to provide the necessary responsiveness. This is the mode of operations of the Army's C-23 fleet in theater today. These assets are in direct support of the ground commander and fly missions each day, delivering these TSMC loads to remote locations far from the logistics hubs at the larger airfields. The timely delivery of these relatively small loads directly to the unit that needs them has been essential to the successes posted by ground commanders throughout the course of operations.

Investments in UAS also ensure the aviation warfighter is prepared for the future. The needs of the Soldier on the move and the commander's reconnaissance, surveillance and target acquisition (RSTA) are being met today and will be met in the future through product improvements to the Raven and Shadow systems, equipping the force with Sky Warrior Extended Range/Multi-Purpose UAS starting in FY 2009 and development of the Class I and IV UAS.

Sky Warrior, the Army's medium altitude endurance program assigned to the CAB, provides enhanced capabilities and long endurance in direct support of the tactical force. With an electro-optic/infrared sensor, synthetic aperture radar, communications relay, Hellfire P+ missiles and a Future Combat Systems (FCS) designated payload, Sky Warrior provides a dedicated, tailorable capability to meet RSTA requirements in the tactical battlespace. Sky Warrior will enable a greater level of manned/unmanned teaming through interoperability with AH-64D Block III aircraft, further reducing the sensor-to-shooter time frame while enhancing the force protection of the manned platform.

The FCS BCT is one of the Army's premier modernization efforts, consisting of a family of manned and unmanned systems and sensors connected to a common network that will provide Soldiers with increased situational awareness, survivability and lethality, enabling them to dominate in conventional and asymmetric environments. In

support of reconnaissance missions, FCS BCTs have two classes of UAS: the Class I and the Class IV Fire Scout.

- The Class I system provides dismounted Soldiers with RSTA capabilities. Estimated to weigh less than 35 pounds, the air vehicle can operate in complex urban and wooded terrains with a vertical takeoff controlled by the dismounted Soldier. The Class I uses autonomous flight and navigation, but it will interact through the network with the Soldier to dynamically update routes and target information. The Class I system increases Soldier survivability by enabling him to see around obstacles and see the enemy first. The aerial vehicle's vertical takeoff and landing capability allows it to hover and





Interoperability

Future force interoperability among Army aviation, existing modular ground forces, FCS and the joint force is an area being given a great deal of attention by Army leadership. Aviation is developing several courses of action to ensure Army aviation remains interoperable with the rest of the force in both its manned and unmanned platforms. Using the hallmarks of modularity as the guiding principles, UAS, regardless of echelon of assignment, possess the level of interoperability to meet the needs of the engaged warfighter. Tactical-echelon battle captains are responsible for integrating all types of Army multimission UAS to fully enable combat missions. Information and battle command are closely coupled by using direct links between the battle commander, sensor and shooter. The foundation of Army UAS interoperability is the One System Ground Control Station. Interoperable with Shadow, Hunter and Sky Warrior systems, the OSGCS is the Army's common ground control station, facilitating unprecedented interoperability while supporting the Army common operator Military Occupational Specialty (MOS) and streamlined institutional training requirements. Flexible, highly mobile and with plug-and-play interoperability with the Army Command Post of the Future and Distributed Common Ground System–Army, the OSGCS meets the modular, tactically tailorable and decentralized execution of operations required in a dispersed noncontiguous environment. With assignment to the fires brigade and battlefield surveillance brigade (BfSB), the OSGCS further links the battle commander, sensor and shooter.

Unmanned sensor information to the Soldier on the move ensures maximum decisionmaking power and situational awareness throughout Army tactical formations. The One System Remote Video Transceiver provides Soldiers direct access to a full menu of Army and joint multi-discipline imagery information; real-time full-motion video with associated sensor telemetry and metadata for enhanced situational awareness. The Army is installing the OSRVT into Apache aircraft, thereby giving the pilot the capability to control the unmanned sensor in real time, ensuring maximum tactical situational awareness. The OSRVT provides relevant, time-sensitive information when and where the tactical Soldier needs it. Army UAS will continue to leverage technologies that facilitate greater connectivity and interoperability, such as tactical common data link, Warfighter Information Network-Tactical (WIN-T) and a standardized video format providing leaders with ready access to critical information to effectively pursue fleeting targets.

stare to observe the target with electrical optical sensors, infrared sensors and a laser designator. Eliminating a tremendous deficit in current operations, the Class I will also perform limited communications relay in restricted terrain. The system will include two air vehicles, a controller and ground support equipment. The Class I is scheduled for initial operating capability starting in 2014; each brigade requires a total of 90 Class I platforms.

- The Class IV Fire Scout system provides greater surveillance, targeting and engagement capabilities than any other UAS currently used at the brigade level. Using vertical take-off and landing, this aircraft will enhance operations in complex terrain. The Fire Scout provides unprecedented situational awareness; precision targeting and engagement; nuclear, biological and chemical surveillance/detection; communication relay and unmanned logistics.





Relevance of UAS and JCA for the Ground Commander in Executing the Tactical Fight

The Army's need for organic UAS and the JCA were recently validated by several Joint Requirements Oversight Council (JROC) sessions and Deputy Secretary of Defense decisions. The Army and Air Force are in constant dialogue to ensure these programs continue forward.

The BCT commander must fight nonlinear battles and engage small enemy cells, while retaining combat power to defeat threats from the entire spectrum of conflict. The RSTA requirements of the war on terrorism differ from prior conflicts. The BCT must be able to plan and integrate intelligence gathering to support the larger fight and retain the ability to dynamically retask those assets to positively identify an emerging target. By reducing the timeline from sensor to shooter, the BCT can defeat threats and protect Army forces.

In theater today, a program to defeat IEDs "left of boom" is actively engaging enemy cells as they emplace IEDs by linking the persistent stare of UAS directly to attack assets. By retaining control of both the sensor and shooter, the BCT is able to positively identify threats, pass their location to attack assets and assess the damage following a strike, defeating the enemy before they engage Army forces.

The BCT commander can also retask UAS assets to provide critical information support during attacks on convoys and downed aircraft. When an aircraft lands outside a secure area or a convoy reports enemy attack, the BCT can retask their systems to immediately go to the area and provide the BCT commander situational awareness to plan support and recovery operations. The ability to operate and control UAS at the BCT level brings time-sensitive information inside the decision cycle of the ground commander.

The JROC recently validated the concept of operations for the employment of UAS and the Deputy Secretary of Defense kept the employment doctrine of UAS under the purview of the JROC. These decisions support the BCT commander's ability to employ UAS to best support the force.

The joint cargo aircraft also supports the BCT commanders need to meet time-sensitive/mission-critical tactical distribution requirements. The JCA is able to move cargo "the last tactical mile" and support the commander's need to balance effectiveness and efficiency. Moving a full load of equipment is an efficient use of aircraft, but waiting for a full load may not effectively meet a mission. The JCA provides the ground commander a capability to employ the asset as necessary to meet dynamically changing missions. The JCA is a well-performing acquisition program that continues to progress on cost and on schedule from the Army's perspective.

The Army supports the positions taken by the Joint Staff and the Department of Defense on both of these programs. These decisions give the services the flexibility needed to employ these systems while reaping benefits of acquisition streamlining and efficiencies. The Army firmly believes any further roles and missions discussions reside within the Department of Defense and the Joint Chiefs of Staff.





Transferring data over the network, the Class IV system will provide brigade-level commanders with dedicated, robust, extended-range RSTA, battle command and communications relay that will maintain awareness throughout the battlespace.

Dedicated UAS at brigade level will increase effectiveness of operations by providing more responsive and more detailed reconnaissance while increasing targeting capability and providing more effective fires, particularly during the counterfire fight and in directing joint fires. It is fitted with a lightweight mine detection system that can be used in tandem with other sensors, providing a unique capability. The Fire Scout is scheduled to be ready for initial operating capability in 2014; each brigade requires a total of 32 Fire Scout platforms.

Data from advanced sensors on the Class I and Class IV systems will be linked to Soldiers and commanders through the network. The network provides seamless delivery of data from platforms and sensors to all levels in the brigade, from commanders to the individual Soldier. This capability gives Soldiers unparalleled situational awareness, allowing them to know where they are, where their friends are and where the enemy is.

Future (Mid term to Far term)

The evolution of the airframes either currently or soon to be in the aviation fleet will address the future needs of aviation and ground commanders for at least the next one to two decades, but what about the capabilities beyond that? The Army is already working on these needs. In the manned aircraft arena, future needs are currently being explored in two major programs: the Joint Heavy Lift (JHL) aircraft and the Joint Multi-Role (JMR) aircraft. As the names indicate, both systems will be developed in the joint arena and will be used by more than one service. These programs are in various stages of the capabilities requirement development phase and are being augmented by scientific studies on the feasibility of various solutions to these capability requirements.

The JHL will be the technological answer to the requirement to move the current and future mounted forces across the battlefield and exploit the vertical realm against adversaries. The JHL provides the ability to apply mounted vertical maneuver and increase the unpredictability of mechanized forces to give ground commanders an advantage they have never before enjoyed. To provide this advantage, the JHL will have to be able to carry payloads in excess of 26 tons over distances of at least 200 nautical miles and land them on austere, unimproved surfaces. When not moving combat vehicles, this aircraft will be a key element in the sustainment arena and will have the ability to move unimaginable loads over unprecedented distances at speeds in excess of 250 knots. It will make the use of airfields as logistical hubs unnecessary, as it will be able to move supplies directly to the point of need. The impending obsolescence of the current theater lift assets in the Air Force demand that this airframe be a joint venture with the other services. It will be a replacement for the C-130 fleet, which is facing major future structural issues and does not have the capacity to provide this mounted vertical-movement capability. The JHL will also be able to use flat-topped naval vessels to provide a ship-to-shore resupply venue. This airframe, a revolutionary leap in the aviation arena, will provide significant capabilities and options for the future force.

Much like the JHL aircraft, the JMR is a yet-to-be defined airframe that will bring revolutionary technologies to the utility and attack fleet. It will have the speed and payload-carrying capability to radically alter the methods currently employed to achieve the desired effects. It, too, will be used by multiple services and will consolidate the number





Army Aviation Modernization Plan

Fiscal Year 2023 - BEYOND

Beyond the Extended Planning Program

Joint Multi-Role

	Current	Planned
AH-64A	209	0
AH-64D (I)	262	0
AH-64D (II)	223	0
AH-64D (III)	0	634
OH-58 A&C	264	0
OH-58KW	345	0
ARH	0	512

Joint Utility

	Current	Planned
UH-60A	949	0
MH/UH-60K or L	694	696
MH/UH-60M	30	1235
UH-1	149	0
LUH	16	322

Medium/Heavy Lift

	Current	Planned
MH/CH-47	452	0
MH/CH-47F or G	67	513

Joint UAS

	Current	Planned
Raven Systems	715	1300
Class I	0	2555
Shadow Systems	56	115
Class IV	0	750
Hunter Systems	4	4
Warrior A AVs	10	14
Warrior Blk B AVs	0	6
Warrior Blk I Systems	0	11

Joint Cargo Aircraft

	Current	Planned
JCA	0	54+
C-23	45	0

Source: Headquarters, Department of the Army

of platforms that currently operate by providing a single aircraft design for both the attack and utility missions.

In FY 2007, Army aviation equipped the first units with the UH-72A and CH-47F. From FY 2008 to FY 2011 the UH-60M, JCA, ARH, Sky Warrior and the AH-64D Longbow Block III systems will be fielded. The Army is working in concert with all services to develop concepts that will support the future force by developing the JHL and JMR programs.

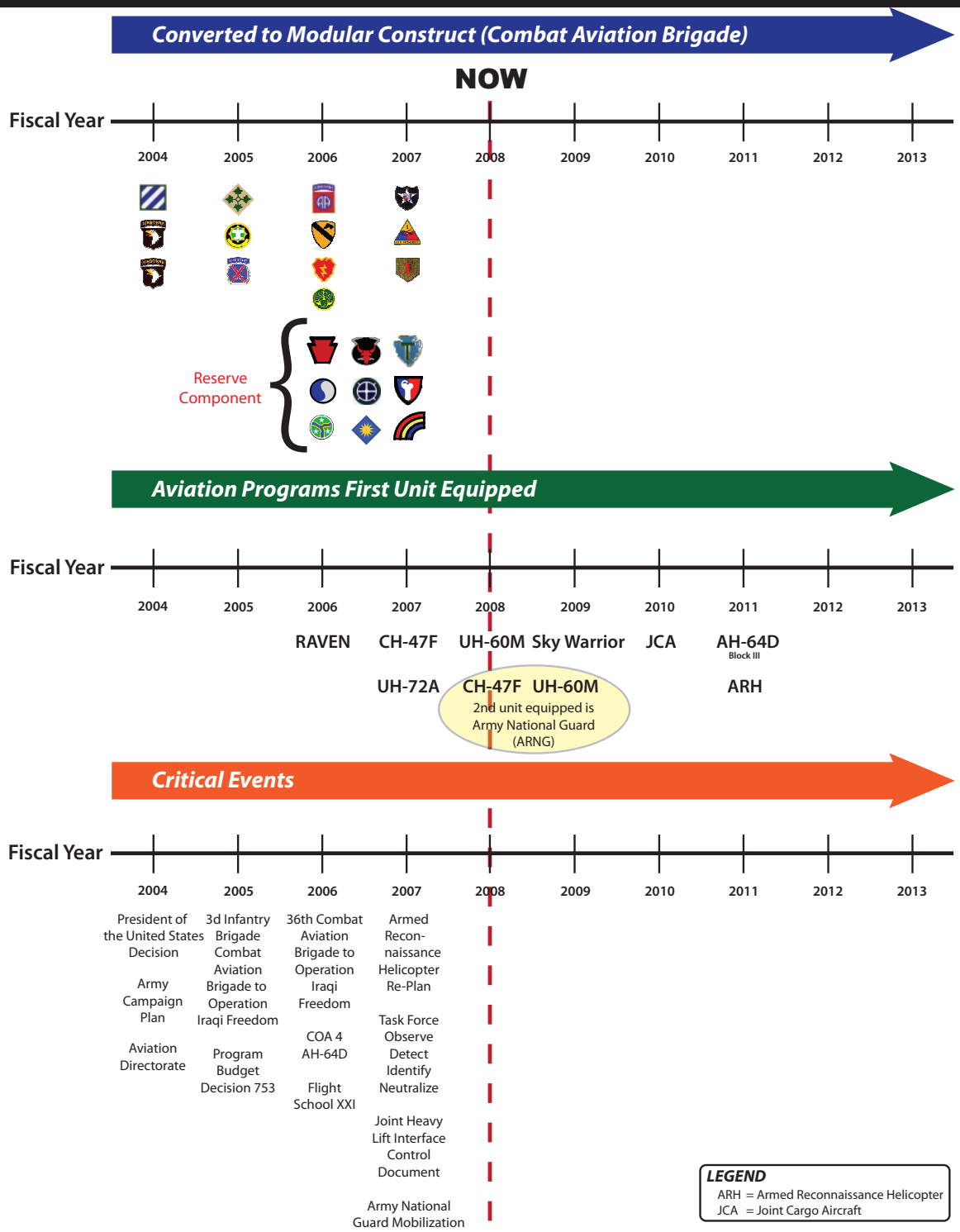
What is Needed

The transformation and modernization of Army aviation is on track. The Army's action plan for manning, training and equipping all aviation fleets—rotary-wing, UAS, fixed-wing—is, at this time, meeting the demands of the current force and providing the framework to rapidly insert new technologies as they mature to enhance future operations. Since 2004, the Army has focused on capitalizing upon the reinvestment of the Comanche funding to modernize the entire fleet, including the active component, the Army National Guard





Aviation Transformation



Source: Headquarters, Department of the Army





and Army Reserve forces. To date, this funding has allowed Army aviation to maintain the disciplined and rapid acquisition for new start programs. The reinvestment of Comanche funding has allowed the Army to select a Light Utility Helicopter (Lakota), ARH, Sky Warrior, JCA, UH-60M and CH-47F and established the Apache Block III conversions as a program of record. The ability to maintain this level of funding has permitted the acceleration of aircraft survivability equipment, avionics, air traffic control systems and common aviation ground support equipment while investing in common cockpit configurations, fly-by-wire technology and improved aviation munitions.

The Army National Guard has been actively undergoing the transformation from a strategic reserve to an operational reserve by benefiting from this modernization. It is currently on track to take receipt of the UH-60M, CH-47F, JCA, UH-72A, AH-64D and the ARH, all of which will enhance its support to the homeland security defense mission and disaster relief. The Army National Guard is going to be one of the first units equipped with the UH-60M and CH-47F.

From 11 September 2001 to 30 November 2007, there were 141 aviation operational losses. Of these losses, 99 have been replaced using $2.4 billion of supplemental funding. There are three AH-64Ds, one UH-60L and three CH-47Ds on the FY 2008 supplemental request. There are 35 OH-58Ds that will not be replaced with similar aircraft due to the pending procurement of the ARH.

What is needed now are selective policy changes and timely, predictable resourcing of current and future aviation requirements to sustain the manning, training and equipping of Army aviation fleets. To do so the Army requires:

- extending modularity to all Army aviation force structures. Combat lessons learned, together with analysis of available resources, validate the medium CAB as optimal for current and future demands;
- fully embedding the entire aviation force (active and reserve component) in the ARFORGEN model. This is the most effective and efficient way to ensure criteria for dwell time is met, and may also require selective policy changes;
- fully resourcing the modernization, recapitalization and remanufacturing of all manned and unmanned aircraft due to abnormal wear and tear from OIF and OEF to reset the force for the future;
- building strength levels in instructor pilots, maintenance test pilots and other high-value/low-demand skills. To achieve this, selective policy changes may be required to resource active and reserve component recruiting and retention incentives; and
- keeping in place recent DoD and joint staff decisions validating the Army's needs for organic UAS and JCA. This provides the Army the flexibility it needs to employ these aviation systems while harvesting the benefits of acquisition streamlining and efficiencies.

What Must Be Done

An era of persistent conflict ultimately means an era of persistent engagement for Army forces and, in particular, Army aviation. Exploiting the vertical dimension of landpower—the manned and unmanned platforms of Army aviation—is an imperative for success in current and future engagements in the 21st century. The Army has a comprehensive, effective plan to exploit these capabilities now and in the foreseeable future and is executing that plan.

To ensure that the Army can continue to provide a warfighting capability to combatant commanders and prepare for the future, Congress and DoD must:





- continue to reinvest funding from the Comanche termination to fully modernize Army aviation (from 2008 AUSA Resolution 08-16);
- fund the development of hostile fire indicator technologies, ATIRCM laser jam technologies and other infrared suppression active and passive systems to ensure aviation warfighter survival (from 08-15);
- institutionalize Army responsibility for its organic UAS and JCA assets (from 08-16);
- replace the aging and depleted OH-58 fleet and the remaining four AH-64A battalions in the Army National Guard with the ARH (from 08-16);
- replace the aging and obsolete C23 and C26 fleets by fully funding the JCA (from 08-11 and 08-16);
- fund the CH-47F Chinook improved helicopter remanufacturing, procurement and engine upgrade program (from 08-16);
- support the Army's plan to recapitalize the UH-60M to the UH-60L program for the Army National Guard and achieve the goal of a pure UH-60M/L fleet by FY 2020 (from 08-12 and 08-16); and
- fully fund the Sky Warrior Extended Range/ Multi-Purpose UAS (from 08-14 and 08-16).





Torchbearer Message

In an era of persistent conflict, exploiting the vertical dimension of landpower—the manned and unmanned platforms of Army aviation—is crucial to the nation's continued ability to control land and influence people and populations on the battlefields of the 21st century. Army aviation has been and continues to be at the forefront of developing new methods of defeating adversaries across the entire spectrum of operations. Incorporating lessons learned; adjusting force structure to meet global needs; disseminating new tactics, techniques and procedures and continued spinning out of new technologies to the field throughout the past six years of conflict have enabled Army aviation to meet current demands.

While continuing to meet the ever-changing demands of national security, the Army is maintaining the critical balance between providing a warfighting capability to the combatant commanders worldwide and the equally vital task of preparing Army aviation for the future. The reinvestment of dollars from the Comanche termination continues to be the key enabler for Army aviation to achieve its transformation and modernization goals in both the active and reserve components. The continued investment in aviation modernization will sustain combat operations for the foreseeable future and prepare Army aviation for subsequent conflicts. These investments significantly improve aircraft survivability equipment for Soldier and force protection and provide leap-ahead capability to the force as a whole for the type of combat envisioned in the next 10 to 15 years. The acquisition of the ARH, Sky Warrior Extended Range/Multi-Purpose UAS and the JCA, together with the recapitalization and remanufacturing of UH-60 Black Hawk, AH-64 Apache and CH-47 Chinook fleets, are crucial elements within a comprehensive, affordable Army aviation modernization strategy.

The Army is adapting its policies, programs and investments to reflect the realities of this era of persistent conflict and balance current and future demands placed upon its aviation force. Congress, the Department of Defense and industry each play a vital role in ensuring aviation program costs, schedules and performance measures are met during a time of persistent engagement. **For the Army to transform its aviation into a campaign-quality, expeditionary force capable of supporting commanders across the spectrum of conflict in the 21st century, full, timely and predictable funding is a must.**

From AUSA Resolution 08-16 Prologue

When the Army terminated the Comanche in 2004, the administration, DoD and the Congress agreed that the resources saved in the period 2004–2011 would be reinvested into Army Aviation to fix the force. This has allowed the Army to keep its Aviation Force on both the modernization and transformation paths. It is imperative that we continue to provide the Army sufficient funding to continue this modernization program.

We have the best pilots in the world. We have the best commanders, the best maintenance crews and the best equipment. Our aviation Soldiers [active, Guard and Reserve] have shown great courage, great ingenuity and superb leadership in a tough and demanding fight . . .

General Richard A. Cody, Army Vice Chief of Staff,
Army News Service, 18 April 2006

Institute of Land Warfare
Association of the United States Army
2425 Wilson Boulevard, Arlington, Virginia 22201-3385
800-336-4570 www.ausa.org