

CRS Report for Congress

U.S. Army and Marine Corps Equipment Requirements: Background and Issues for Congress

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**Prepared for Members and
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U.S. Army and Marine Corps Equipment Requirements: Background and Issues for Congress

Summary

The United States Army and Marine Corps have been at war — first in Afghanistan and then Iraq — since November 2001. The Army's and Marine Corps' equipment has been employed in what has been described as “the harsh operating environments of Iraq and Afghanistan” where the heat, sand, and dust as well as operational rates “well in excess of peacetime rates” have taken a heavy toll on the Army's and Marines' equipment.

Re-equipping Reserve and National Guard units that, in many cases, were under-equipped to start with and then required to leave their equipment in theater also presents challenges to the services. The Army and Marine Corps are also undertaking efforts to re-equip their pre-positioned stocks which were drawn upon to provide equipment for use in Afghanistan and Iraq. There are also concerns that the Army and Marines have not always aggressively pursued the best force protection equipment available and the Army has been questioned on its efforts to improve the standard soldier assault rifle. Congress, in its appropriation, authorization, and oversight roles may be faced with some of the following issues:

- What are the Department of Defense's (DOD's) and the Service's plans to re-equip reserve forces so that they are sufficiently resourced for domestic missions and to properly train for deployments to Iraq and Afghanistan?;
- What is the current state of pre-positioned stocks that have been drawn down again to support the Iraq “surge”? What type of equipment is being used to restock pre-positioned stocks and is this equipment fully operational or in a lesser state of readiness?;
- Were the Services aggressive enough in pursuing the acquisition of MRAPs or is the recent move to replace all uparmored high-mobility, multi-wheeled vehicles (HMMWVs) with MRAPs “too little, too late”?; and
- Have bureaucratic difficulties attributed to the Army and DOD had an adverse impact on efforts to find a suitable replacement for the Army's M-16/M-4 series of assault rifles?

This report will be updated on a periodic basis.

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U.S. Army and Marine Corps Equipment Requirements: Background and Issues for Congress

Background

The United States Army and Marine Corps have been at war — first in Afghanistan and, then Iraq — since November 2001. The Army is in its sixth year of sustained combat and has maintained up to 21 brigade combat teams in Iraq and Afghanistan.¹ In a similar manner, the Marine Corps has deployed its forces and equipment in what has been described as “the harsh operating environments of Iraq and Afghanistan” where the heat, sand, and dust as well as operational rates “well in excess of peacetime rates” have taken a heavy toll on the service’s equipment, which, in some cases, was more than 20 years old when the conflicts first began.²

Equipping Reserve and National Guard units also presents challenges to the services. Traditionally, the Army National Guard and Reserve have been characterized as under-equipped and often times equipped with older equipment than their Active component counterparts. The Army has committed to both man and equip the Army Reserves and National Guard in a similar manner to the Active component.³ The Army and Marine Corps are also undertaking efforts to re-equip their pre-positioned stocks which were drawn upon to provide equipment for use in Afghanistan and Iraq. The Army and Marines are also actively pursuing the acquisition of new equipment based on wartime experiences. The Army and Marines have a number of equipment-related challenges to rectify which may require significant funding and management efforts.

Historical Perspective on Equipment

Equipping Army and Marine units has been a long-standing concern of Congress that has taken on added importance as weapons and equipment have become exponentially more sophisticated and expensive. With few exceptions, almost all Army and Marine Corps units have historically faced equipment shortages.

¹ Congressional Transcripts, House Appropriations Subcommittee on Defense Hearing on Army Acquisition Programs, April 17, 2007, p. 3.

² United States Government Accountability Office (GAO) Testimony Before the Subcommittee on Readiness and Tactical Air and Land Forces, Committee on Armed Services, House of Representatives, “Defense Logistics: Preliminary Observations on Equipment Reset Challenges and Issues for the Army and Marine Corps,” GAO-06-604T, March 30, 2006.

³ Donna Miles, “Army to Ensure Reserve Components Fully Manned, Trained, Equipped,” American Forces Press Service, February 2, 2006.

In these cases, units either “made do” with the equipment on hand or, if leadership directed, equipment could be transferred from one unit to another — referred to as “cross leveling” — to increase a unit’s equipment holdings at the expense of another unit or organization. Reserve forces, which in the past constituted the nation’s “Strategic Reserve,” usually had less equipment than their active duty counterparts and much of this equipment tended to be older models.

Protracted conflicts — like Afghanistan and Iraq — serve the purpose of identifying what equipment works and what equipment does not, as well as identifying requirements for new equipment. In the later case, the wars in Iraq and Afghanistan have generated requirements for new equipment such as Mine-Resistant, Ambush-Proof (MRAP) vehicles. Protracted conflicts also dramatically increase equipment operational usage rates, resulting in reduced useful life and increasing repair and replacement requirements.

Equipping the Force

There are a number of dimensions to equipping Army and Marine Corps units that are examined in the following sections. Equipping units might appear to be a relatively straight forward exercise, but there are a variety of factors involved. Funding is perhaps the foremost issue, as funding is often limited, requiring the services often to make trade-offs between equipment needed to sustain operations and equipment for reorganization or modernization efforts. Another issue is that even if funds are readily available, the equipment might not be. Army officials maintain that for some systems, it can take up to three years after receiving funding before they can be fielded to units.⁴

Equipping Units to Their Authorized Levels. Prior to units being deployed on operations, the Army and Marine Corps typically attempt to bring these units up to their authorized levels of both personnel and equipment. In terms of equipping forces, there are a number of options available. The first option is to requisition the needed equipment through each service’s respective supply chain, but this option may not be practical if a unit’s equipment needs are significant or if the unit does not have a great deal of time before it deploys. Other options for equipping units include cross-leveling and drawing equipment “in-theater” when a unit deploys. These other two options will be discussed in greater detail in following sections.

Equipping Units Above Authorized Levels. Both the Army and Marines are providing their units with additional equipment over and above their peacetime authorized levels, which is placing significant equipment demands on both services.⁵

⁴ From discussions with the Army’s Material Division, G-8 Section of the Army Staff on October 25, 2006.

⁵ Information in this section is taken from the Statement of General Michael W. Hagee, Commandant of the Marine Corps before the House Armed Services Committee Hearing on Army and Marine Corps Strategies for Ground Equipment and Rotor Craft, June 27, 2006, and a discussion with the Army’s Material Division, G-8 Section of the Army Staff on July (continued...)

The Army maintains that its brigade combat teams (BCTs) are operating over a much wider geographical area than they were designed for and therefore require additional equipment to facilitate these dispersed operations. In addition, units such as the 10th Mountain Division, 101st Airborne, and 82nd Airborne, the Army's light, largely foot-mobile infantry units, require extensive equipment augmentation — particularly vehicles — in order to operate over the large areas assigned to them.

The Marines suggest that:

The Marine Corps is executing a number of operational missions that are inherently ground equipment intensive. Stability and Support Operations (SASO), Counter-Insurgency (COIN), Civil Military Operations, and Foreign Military Training all require a greater quantity of equipment than our programmed levels for traditional combat operations. In order to adapt to these new mission requirements, we have revised the Equipment Density List, increasing the quantity of equipment issued to Marine Units deploying into the CENTCOM⁶ ... Our forward operating bases are not in close proximity to each other; the large distances between forward operational bases require additional vehicles, communications capabilities, and crew-served weapons over and above the standard unit Equipment Density List ... The increased ground equipment requirement, when coupled with high utilization rates, results in a Corps-wide degradation of equipment.⁷

The following table provides a selective comparison of a Marine Expeditionary Force (MEF) (Forward) — an approximately 18,000 Marine force — pre-war and revised equipment requirements.⁸

Table 1. Selected MEF (Forward) Equipment Density Comparison

Equipment	Pre-War Equipment Density List	Revised Equipment Density List
PRC-117 Radio	78	205
7-Ton Medium Tactical Vehicle Replacement (MTVR)	540	1015
Armored HMMWV	311	981
M-2 50-Caliber Machine Gun	534	634

⁵ (...continued)
12, 2006.

⁶ U.S. Central Command (CENTCOM) is the Unified Combatant Command responsible for operations in Iraq and Afghanistan as well as other geographical locations within their command jurisdiction.

⁷ Statement of General Michael W. Hagee, Commandant of the Marine Corps before the House Armed Services Committee Hearing on Army and Marine Corps Strategies for Ground Equipment and Rotor Craft, June 27, 2006, p. 5.

⁸ Ibid.

Current Initiatives Impacting Equipping the Force

The Iraq Troop “Surge”

In early January 2007, President Bush directed that five additional Army active duty BCTs and two additional Marine battalions plus additional Army and Marine support units would deploy to Iraq to help the Iraqi government stabilize the ever-worsening security situation.⁹ Each Army BCT consists of approximately 4,000 soldiers and some 40,000 pieces of equipment. The unforecasted requirement to fully equip these “surge” forces will likely cause additional strain on already depleted equipment stocks, with some suggesting that specialized items such as electronic jammers to counter improvised explosive devices (IEDs), M117 Armored Security Vehicles, and Mine Resistant Ambush-Proof (MRAP) vehicles might be in particularly short supply.¹⁰

Increase to Army and Marine Corps Endstrengths

On January 19, 2007, after having resisted previous congressional calls to permanently increase the end strengths of the Army and Marine Corps, the Department of Defense announced that it would seek approval to increase the permanent end strengths of the active Army by 65,000 and the active Marine Corps by 27,000.¹¹ The Army plans to create six additional brigade combat teams (BCTs), and two additional Patriot missile battalions and the Marines plan to create an additional regimental combat team (RCT) from the increased endstrength.¹² These additional troops will also permit both services to fill shortages in existing organizations and create other smaller units that are in high demand. Although specific types and quantities of equipment needed for new Army units has not been made publically available, Army officials have stated that they will require \$18 billion over the next five fiscal years to equip these new units.¹³

Coping With Equipment Shortfalls

Cross-Leveling. Cross-leveling is the practice of transferring equipment to a unit either from another unit or from some type of equipment pool such as pre-positioned stocks. In the case of a unit-to-unit transfer, the transferred equipment

⁹ David S. Cloud and Thom Shanker, “Bush’s Troop-Increase Plan is Expected to Draw Six Guard Brigades to Iraq,” *New York Times*, January 10, 2007.

¹⁰ Peter W. Singer, “While Some Welcome Additional Troops, Equipment and Retention Rates could Suffer,” *Defense News*, January 29, 2007.

¹¹ Department of Defense (DOD) Press Transcripts, DOD News Briefing with Under Secretary of Defense David Chu, Lieutenant General Stephen Speakes, and Lieutenant General Emerson Gardner from the Pentagon, January 19, 2007.

¹² Ibid.

¹³ Nathan Hodge, “US Army to Spend \$18 Billion to Equip a Larger Force,” *Jane’s Defence Weekly*, January 31, 2007.

often comes from a similar-type unit, usually in a non-deployable status. Both the Army and Marines have made extensive use of cross-leveling, particularly early on in the Afghan and Iraq conflicts. According to General Michael W. Hagee, Commandant of the Marine Corps, “equipment across the Marine Corps is continuously cross-leveled and redistributed to ensure that units preparing to deploy have sufficient equipment available.”¹⁴

Equipment in Theater.¹⁵ The Army has kept large quantities of equipment in theater, primarily to conserve strategic transportation assets and reduce costs, but also to ensure that units are adequately equipped when deployed. This initiative — called Theater Provided Equipment (TPE) — began in late 2003 when Army units, including Active, National Guard and Reserve, were directed to leave much of their equipment in theater when they redeployed back to the United States. This equipment is then “handed-off” to units deploying to both Operations Enduring Freedom (OEF) in Afghanistan and Operation Iraqi Freedom (OIF). TPE consists of a variety of equipment items including armored vehicles, individual soldier body armor, and equipment used to counter improvised explosive devices. The Marines have also directed that equipment needed for OEF and OIF be left in theater. As previously noted, because mission requirements require additional equipment beyond a unit’s peacetime equipment allowance, the Marines have developed expanded equipment packages in theater for deploying units.

Both Services have also set aside pools of equipment to rapidly replace equipment damaged and destroyed during operations. The Army refers to this pool of equipment as Theater Sustainment Stocks (TSS). This includes as many as 400 different types of vehicles and equipment numbering about 174,000 pieces of equipment including, Abrams tanks, Bradley fighting vehicles, HMMWVs, and other support vehicles. The Marines also have developed a similar pool of equipment known as Forward In-Stores to replace major equipment damaged or destroyed.

Requirement to Replace Reserve and National Guard Equipment Left in Theater. In late 2003, the Army directed National Guard and Reserve units to leave selected items of equipment in theater when redeploying to the United States.¹⁶ This equipment left behind by Guard and Reserve units is placed in both the TPE and TSS equipment pools, along with equipment left in theater by Active Army

¹⁴ Statement of General Michael W. Hagee, Commandant of the Marine Corps before the House Armed Services Committee Hearing on Army and Marine Corps Strategies for Ground Equipment and Rotor Craft, June 27, 2006, p. 3.

¹⁵ Information in this section is taken from United States Government Accountability Office (GAO) Testimony Before the Subcommittee on Readiness and Tactical Air and Land Forces, Committee on Armed Services, House of Representatives, Defense Logistics: Preliminary Observations on Equipment Reset Challenges and Issues for the Army and Marine Corps, GAO-06-604T, March 30, 2006, p. 6.

¹⁶ United States Government Accountability Office (GAO) Testimony Before the Subcommittee on Readiness and Tactical Air and Land Forces, Committee on Armed Services, House of Representatives, Defense Logistics: Preliminary Observations on Equipment Reset Challenges and Issues for the Army and Marine Corps, GAO-06-604T, March 30, 2006, p 16.

units. DOD Policy¹⁷ requires that the Army replace equipment transferred to it by reserve components and if that equipment is left in theater, the Army must provide “plans to replace equipment for units returning home to ensure training readiness.”¹⁸ National Guard leadership has reportedly stated that the Army National Guard, on aggregate, has only 56% of its authorized equipment.¹⁹ It is not known if the Army has developed plans to replace National Guard and Reserve equipment left in Iraq and if efforts are underway to meet this DOD policy.

Recent Congressional Action. The House Armed Services Committee, concerned over the Reserve’s deteriorating equipment situation, recommended adding \$1 billion to the President’s \$5.7 billion request for Army Reserve and National Guard equipment procurement for FY2008.²⁰ The Senate Armed Services Committee supported the Administration’s \$5.7 billion request for FY2008.²¹

Equipment from Prepositioned Stocks. Another source for equipping Army and Marine Corps units is equipment from prepositioned stocks either ashore or afloat. Reports maintain that both the Army and Marines have drawn extensively on prepositioned stocks to support operations in Iraq and Afghanistan.²² While drawing on these stocks has facilitated operations in Iraq and Afghanistan, by depleting these stocks, DOD has assumed near-term operational risks if another large scale conflict breaks out. While the remnants of these prepositioned stocks provide a degree of residual capability, there are supposedly some significant inventory and maintenance shortfalls.²³

To support operations, the Army reportedly used almost all of its prepositioned ship stocks and its stocks ashore in Kuwait and Qatar as well as some stocks in

¹⁷ Department of Defense Directive 1225.6, Equipping the Reserve Forces, April 7, 2005.

¹⁸ Ibid., p. 3.

¹⁹ Peter Spiegel, “Guard Equipment Levels Lowest Since 9/11,” *Los Angeles Times*, May 10, 2007.

²⁰ House Armed Services Committee Report on the National Defense Authorization Act for Fiscal Year 2008 (H.R. 1585), H.Rept. 110-146, May 11, 2007, pp. 466-7.

²¹ Senate Armed Services Committee Report on the National Defense Authorization Act for Fiscal Year 2008 (S. 1547), S.Rept. 110-77, June 5, 2007.

²² Unless otherwise noted, information in this section is taken from United States Government Accountability Office (GAO) Testimony Before the Subcommittee on Readiness and Tactical Air and Land Forces, Committee on Armed Services, House of Representatives, “Defense Logistics: Preliminary Observations on Equipment Reset Challenges and Issues for the Army and Marine Corps,” GAO-06-604T, March 30, 2006, pp. 15-16.

²³ United States Government Accountability Office (GAO) Testimony Before the Subcommittee on Readiness, Committee on Armed Services, House of Representatives, “Military Prepositioning: Observations on Army and Marine Corps Programs During Operation Iraqi Freedom and Beyond,” GAO-04-562T, March 24, 2006, p. 11.

Europe.²⁴ This included more than 10,000 pieces of rolling stock, 670,000 repair parts, 3,000 containers and thousands of other items of equipment.²⁵ According to General Michael W. Hagee, Commandant of the Marine Corps, the Marines drew equipment and supplies from the Marine Corp's two prepositioning programs — the Maritime Prepositioning Force and the Marine Corps Prepositioning Program (Norway) — to support operations in Iraq and Afghanistan.²⁶

Reconstituting Prepositioned Stocks. The Army and Marines are attempting to reconstitute their prepositioned stocks. The Army is reportedly focusing on building two brigade-sized equipment sets in Kuwait and battalion sized sets in Qatar and Afghanistan.²⁷ Equipment that is being used to form these sets is coming from a combination of equipment left in theater, equipment being transferred from U.S. depots, and from units around the world. Much of this equipment is described as needing “substantial repair.”²⁸

Prepositioned Stocks Being Used to Support Iraq “Surge”. Reports suggest that prepositioned stocks that were being rebuilt, have been drawn on heavily primarily to support the Iraq “surge” resulting in the lowest level of prepositioned stocks in five years.²⁹ Under normal circumstances, the Army has five full brigades’ worth of prepositioned equipment available: two brigades’ worth in Kuwait; one brigade in Korea, and two brigades’ worth aboard ships in Guam and at the U.S. naval base at Diego Garcia.³⁰ In order to provide equipment to surging forces, the Army used the afloat stocks and are also using the Kuwaiti stocks to equip units. Only the South Korean stocks are largely intact. According to former Chief of Staff of the Army General (GEN) Peter Schoomaker, it will take two years to rebuild the prepositioned stocks, a fact that worries both military officials and Congress, as these equipment shortages severely limit the Army’s ability to respond to other military contingencies. The Army estimates that it will require an additional \$2.2 billion to

²⁴ Ibid.

²⁵ Ibid.

²⁶ Statement of General Michael W. Hagee, Commandant of the Marine Corps before the House Armed Services Committee Hearing on Army and Marine Corps Strategies for Ground Equipment and Rotor Craft, June 27, 2006, p. 6.

²⁷ United States Government Accountability Office (GAO) Testimony Before the Subcommittee on Readiness and Tactical Air and Land Forces, Committee on Armed Services, House of Representatives, “Defense Logistics: Preliminary Observations on Equipment Reset Challenges and Issues for the Army and Marine Corps,” GAO-06-604T, March 30, 2006, pp. 15-16.

²⁸ Ibid.

²⁹ Roxana Tiron, “Panel Questions Equipment Deployment,” The Hill.com, March 14, 2007 and Kris Osborn, “U.S. Army: Prepositioned Stocks at 5-Year Low,” *DefenseNews.com*, April 11, 2007.

³⁰ Information in this section is taken from Ann Scott Tyson, “Military is Ill-Prepared for Other Conflicts,” *Washington Post*, March 19, 2007.

replace prepositioned equipment that was issued to support the “surge.”³¹ In February 2007, the Marines testified to Congress that “two of our three Maritime Prepositioning Squadrons have undergone extensive equipment maintenance and have been restored to historical readiness rates of 98 percent” and that the remaining Maritime Prepositioning Squadron “is at about 48 percent and is still awaiting delivery of equipment.”³²

War-Related Equipment Needs

The wars in Afghanistan and Iraq have generated a variety of equipment requirements. These requirements range from developing new equipment, providing commercially-available equipment to service members and units, and modifying existing equipment. The early years of the Afghan and Iraq wars revealed deficiencies both in quantity and quality of protective equipment such as body armor for individual troops and armor protection for wheeled vehicles. Congressional involvement has played a significant role in focusing DOD’s attention and resources in addressing these force protection deficiencies, which have seen significant improvement over the past few years. Body armor remains an ongoing issue; some are concerned that the Army’s M-16 series of weapons are not reliable; and one relatively current force protection initiative, the Mine-Resistant, Ambush-Proof (MRAP) vehicle, is receiving considerable attention.

Mine-Resistant, Ambush-Proof (MRAP) Vehicles

MRAP refers to a family of vehicles produced by a variety of U.S. and international companies that generally incorporate a “V” shaped hull and armor plating designed to provide protection against mines and improvised explosive devices (IEDs) which are responsible for about 70% of U.S. casualties in Iraq. There are three categories of MRAPs that DOD intends to procure:

- Category I vehicles weighing about seven tons and capable of carrying six passengers;
- Category II vehicles weighing about 19 tons, are capable of carrying 10 passengers and can perform a variety of missions including ambulance transport and convoy escort; and
- Category III vehicles intended to be used primarily to clear mines and IEDs, weighing about 22.5 tons and capable of carrying up to 12 passengers.

³¹ Congressional Transcript - House Appropriations Subcommittee on Defense Hearing on Army Reset, April 18, 2007, p. 4.

³² Statement of Lieutenant General Emerson N. Gardner, Jr., “U.S. Marine Corps and U.S. Navy Reset Requirements,” before the House Subcommittees on Readiness and on Seapower and Expeditionary Forces, February 13, 2007, p. 2.

In contrast, the High Mobility, Multi Wheeled Vehicle (HMMWV) weighs about three tons and the M-1 Abrams tank, about 71 tons.³³ The Army and Marines have employed two versions of MRAPs (the Buffalo and Cougar, respectively) in limited numbers in Iraq and Afghanistan since 2003, primarily for route clearance and explosive ordnance disposal (EOD) operations. MRAPs have been described as providing “twice as much protection against IEDs”³⁴ as uparmored HMMWVs. Both the Army and Marines continue to use various armored versions of the HMMWV as their primary troop transport. In February 2007, senior defense officials reportedly planned to accelerate the Joint Light Tactical Vehicle (JLTV) program (the HMMWV’s replacement) so it could be fielded to units in 2012 — meaning that U.S. forces would continue to employ HMMWVs as their primary wheeled ground troop transport for at least another five years.³⁵

The Evolving Requirement. The Army’s Buffalo MRAP vehicle was originally intended to be fielded only to engineer units. The Army planned to stand up three Route Clearance Companies per year starting in FY2007, for a total of twelve companies.³⁶ The Army requested \$500 million and the Navy \$172 million in FY2008 for MRAPs; and the Army another \$520 million additional supplemental funding for the end of FY2007.³⁷ As of February 2007, the Army reportedly planned to acquire 2,500 MRAPs while the Marines planned to acquire 3,594 MRAPs.³⁸ Senior Army officials stressed that MRAPs were only “an interim strategy” and that the Army was still “dedicated to the future of the [Joint Light Tactical Vehicle].”³⁹ Also in February 2007, it was reported that Marine Corps leadership decided to replace all uparmored HMMWVs in Iraq with MRAPs while Army leadership would continue to rely on uparmored HMMWVs.⁴⁰ Reports suggest, however, that Marine leadership chose not to procure 1,169 MRAP vehicles that were requested in February 2005 by the 1st Marine Expeditionary Force, opting to continue using uparmored HMMWVs instead.⁴¹

³³ Ibid.

³⁴ Tom Vanden Brook, “Troops in Iraq Get Safer Vehicle, *USA Today*, May 10, 2007.

³⁵ Nathan Hodge, “US Considers Accelerating Purchase of JLTV,” *Jane’s Defence Weekly*, February 28, 2007, p. 11.

³⁶ Statement by Major General Stephen M. Speakes, Major General Jeffrey A. Sorenson, and Brigadier General Stephen D. Mundt, Readiness Subcommittee and Tactical Air and Land Forces Subcommittee, House Armed Services Committee, Army Force Protection and Aviation Safety Programs, February 1, 2006, p. 6.

³⁷ Fawzia Sheikh, “Industry Unclear About Army’s Plans for Joint-Service MRAP Program,” *InsideDefense.com*, February 12, 2007.

³⁸ Ibid.

³⁹ Ibid.

⁴⁰ David Wood, “Marines to Replace Humvees in Iraq,” *Baltimore Sun*, February 15, 2007.

⁴¹ Jason Sherman, “Marines Rejected Original Request for MRAP in 2005; Biden Shocked and Sickened,” *InsideDefense.com*, May 22, 2007 and Tom Vanden Brook, “Corps Refused 2005 Plea for MRAP Vehicles,” *USA Today*, May 24, 2007.

The Marines placed their first order for 215 MRAPs out of a total requirement of almost 3,600 MRAPs on February 15, 2007,⁴² and placed their second order for 180 additional MRAPs on February 23, 2007.⁴³ In March 2007, the MRAP requirement for all services reportedly grew by 15% as the Navy, Air Force, and the Special Operations Command (SOCOM) added requirements for MRAPs which stood at 7,774 DOD-wide as of March 26, 2007.⁴⁴

Many in Congress were not pleased with DOD's FY2008 Budget requests for the funding of MRAP vehicles, noting that "they were dismayed by the shortfall of funding requested by the Department of Defense in its supplemental request"⁴⁵ and "concerned that the fiscal year 2008 budget request ... did not adequately resource the remaining MRAP funding requirement."⁴⁶ In early May, allegedly due to the requests from Army commanders in Iraq, Army leadership reportedly began considering the possibility of replacing all uparmored HMMWVs in Iraq with MRAPs — thereby increasing the Army's total requirement to approximately 17,000 MRAP vehicles.⁴⁷ The Army might increase its total MRAP requirement to more than 23,000 vehicles as Army officials have recently been dispatched to the U.S. Central Command (CENTCOM) area of operations to better ascertain commander's MRAP requirements.⁴⁸

On May 2, 2007, Secretary of Defense Robert Gates declared that "the MRAP program should be considered the highest priority Department of Defense acquisition program" and also expressed his concern with "the wide variance in approach" between the Army and Marine Corps.⁴⁹ After this memorandum was issued, the Acting Secretary of the Army reportedly increased the Army's MRAP requirements to 17,700 vehicles to replace over the next two years all 17,700 HMMWVs in Iraq, with 9,000 MRAPs to be produced in FY2008 and 8,700 in FY2009.⁵⁰ On May 30, 2007 the Secretary of Defense established an MRAP Task Force to speed production and fielding of MRAPs and also designated the MRAP program as a "DX" program,

⁴² Natahn Hodge, "USMC Moves Quickly to Place MRAP Contracts," *Jane's Defence Weekly*, February 21, 2007, p. 10.

⁴³ Alon Ben-David, "USMC Places More Orders for MRAP Vehicles," *Jane's Defence Weekly*, March 7, 2007, p. 10.

⁴⁴ Jason Sherman, "MRAP Requirement Rises 15 Percent as Navy, Air Force, SOCOM Weigh In," *InsideDefense.com*, March 26, 2007.

⁴⁵ Fawzia Sheikh, "House Criticizes DOD's Funding Request for Vehicles Countering IEDs," *InsideDefense.com*, April 2, 2007.

⁴⁶ House Armed Services Committee Report on the National Defense Authorization Act for Fiscal Year 2008," Report 110-146, May 11, 2007, p. 466.

⁴⁷ Jason Sherman, "Army Eying the Replacement of all Humvees in Iraq with MRAP Vehicles," *Inside the Pentagon*, May 3, 2007.

⁴⁸ Jason Sherman, "Army Leaders Due in Iraq to Add Up MRAP Needs: Program Could Grow," *Inside the Army*, June 11, 2007.

⁴⁹ Memorandum from Secretary of Defense Robert Gates, "MRAP Acquisition," May 2, 2007.

⁵⁰ Gina Cavallo, "Army to Make Request for 17,000 MRAPs," *Army Times*, May 10, 2007.

giving it priority for resources.⁵¹ Some maintain that DOD's emphasis on acquiring large numbers of MRAPs for the Services will essentially "kill the Joint Light Tactical Vehicle (JLTV) and HMMWV lines."⁵²

MRAP Concerns. While MRAP vehicles appear to offer significantly more protection than the current fleet of uparmored HMMWVs, there are a number of concerns. Reports suggest that no single company can produce more than 1,200 MRAPs per month and some suggest that Pentagon believes that by the end of the year, only a maximum of 977 MRAPs can be produced per month.⁵³ Another concern is that there might not be adequate supplies of steel for armor and rubber for tires.⁵⁴ The priority placed on MRAP production might also have an impact on other programs such as the Medium Tactical Vehicle Replacement (MTVR) program because of a competition for resources such as tires, thin-gauge armor, and high strength steel plates.⁵⁵ Another potential concern is that MRAPs may not be able to withstand Explosive Formed Penetrator (EFP)-type of improvised explosive devices currently being employed by Iraqi insurgents with great effect. Reports suggest that add-on armor might be required to provide MRAPs with additional protection.⁵⁶ Even if production and armor concerns are overcome, some believe that the deployment of MRAPs in any meaningful quantities will be "too little, too late," as U.S. forces in Iraq may be significantly reduced over the next year if progress is not made to bring stability to the country. Although MRAPs provide enhanced armored protection, some military officials note that they are often too large and too unwieldy to operate in restrictive environments and the Marines maintain that MRAPs are not expeditionary and are not shipboard compatible.⁵⁷ It is also not unreasonable to assume that MRAPs will have similar air transportability issues which could impact on rapid unit deployment during contingency operations.

Recent Congressional Action. The House Armed Services Committee, "concerned that the fiscal year 2008 budget request ... did not adequately resource the remaining MRAP funding requirement," recommended \$4.6 billion, an increase of

⁵¹ Jason Sherman, "Gates Establishes MRAP Task Force to Speed Up Production, Fielding, InsideDefense.com, June 4, 2007 and Emelie Rutherford, "Gates Approves DX Rating for MRAP," InsideDefense.com, June 4, 2007.

⁵² Gina Cavallaro, "MRAP Request May be the End of the Road for Humvee," *Army Times*, May 10, 2007.

⁵³ Jason Sherman, "Army Eyes \$10 Billion in Procurement Cuts to Fund Larger MRAP Fleet," *Inside the Pentagon*, May 17, 2007 and Tom Vanden Brook, "Army Seeks \$20 Billion for MRAPS, But Quick Fielding Has Hurdles," *USA Today*, May 18, 2007.

⁵⁴ Jason Sherman, "Army Eyes \$10 Billion in Procurement Cuts to Fund Larger MRAP Fleet."

⁵⁵ Emelie Rutherford, "DOD Reviews How MRAP Priority Rating Might Affect Other Programs," *InsideDefense.com*, June 11, 2007.

⁵⁶ Tom Vanden Brook, "MRAPS May Need Extra Armor to face EFPs," *USA Today*, May 31, 2007.

⁵⁷ Tom Vanden Brook, "Army Seeks \$20 Billion for MRAPS, But Quick Fielding Has Hurdles," *USA Today*, May 18, 2007 and Geoff Fein, "MRAP Testing Near Completion, Contracts Expected in June," *Defense Daily*, April 25, 2007.

\$4.1 billion, to complete DOD's MRAP requirement, using Service and DOD procurement funds from what it considered lower priority programs.⁵⁸ The Senate Armed Services Committee added \$4 billion over DOD's requests for MRAPs — with almost \$2 billion for Navy and Marine Corps requirements; over \$1.5 billion for Army requirements; \$430 million for Air Force MRAPs; and \$124 million for SOCOM vehicles.⁵⁹

Body Armor

In June 2007, the Government Accountability Office (GAO) reported that “the Army and Marines are currently meeting theater ballistic requirements and the required amount of body armor needed for personnel in theater, including amounts needed for the surge of troops to Iraq.”⁶⁰ Both the Army and Marines are involved in efforts to improve the current Interceptor body armor systems used in Iraq and Afghanistan.

Army. In April 2007, the Army announced that it would begin fielding improved body armor.⁶¹ The new body armor — the Improved Outer Tactical Vest (IOTV) — will continue to use Enhanced Small Arms Protective Inserts (SAPI), and will weigh three pounds less than the current Outer Tactical Vest.⁶² In May 2007, the Army reportedly awarded two contracts to two different firms for \$167 million to produce 230,000 IOTVs.⁶³

Marines. In March 2007, Marines began receiving a new Modular Tactical Vest that provides increased protection, improved load carrying capacity, and improved overall comfort.⁶⁴ The new vest, although slightly heavier than the current version, provides more shrapnel protection against lower back and kidney areas and protects the side torso also. The Marine's initial rollout is for 60,000 MTVs which is expected to be completed by December 2007.

⁵⁸ House Armed Services Committee Report on the National Defense Authorization Act for Fiscal Year 2008 (H.R. 1585), Report 110-146, May 11, 2007, pp. 466-7.

⁵⁹ Senate Armed Services Committee Press Release, Senate Statement on the FY-08 Defense Authorization Bill, May 25, 2007, p. 2.

⁶⁰ United States Government Accountability Office Testimony Before the House Armed Services “Defense Logistics: Army and Marine Corps” Body Armor Requirements, Controls, and Other Issues,” June 6, 2007, p. 3.

⁶¹ Program Executive Office - Soldier, “Army to Field Improved Body Armor” Ft. Belvoir, VA, April 2, 2007.

⁶² Nathan Hodge, “US Army to Field Upgraded Body Armour System,” *Jane's Defence Weekly*, April 11, 2007, p. 31.

⁶³ Matthew Cox, “Army Awards Contracts for New Vest,” *Army Times*, May 23, 2007.

⁶⁴ Information in this section is from Sgt. Ethan E. Rocke, “Okinawa Marines First to Receive New Body Armor; Initial Reviews Positive for Corp's Next Vest,” *Marine Corps News*, April 5, 2007.

Dragon Skin Body Armor. On March 17, 2006, the Army issued a Safety of Use Message discontinuing the use of Dragon Skin body armor — a commercially developed product by Pinnacle Armor — that some soldiers had acquired privately for use in Iraq and Afghanistan.⁶⁵ Army officials at the time, who had been examining Dragon Skin for potential use by the Army, stated that Dragon Skin was “not certified against small arms threats.”⁶⁶ Since the ban on Dragon Skin by the Army, Pinnacle Armor Inc., as well as others have alleged that Dragon Skin performed better on the Army’s tests and subsequent private tests than the Army has suggested.⁶⁷ On May 21, 2007, to counter these charges, the Army held a press conference where Army officials allege that Dragon Skin had “catastrophically failed” the Army’s tests.⁶⁸ On May 21, Senators Levin and McCain wrote Secretary of Defense Gates asking him to have the Directors of Defense Research Engineering and Operational Test and Evaluation “conduct a comprehensive technical assessment of the individual body armor systems currently available.”⁶⁹ During a House Armed Services Committee hearing on body armor on June 6, 2007, committee members called for additional testing for Dragon Skin body armor and the Army reportedly agreed to re-test Dragon Skin if its maker responded to the Army’s current request for proposal (RFP) for new body armor.⁷⁰ The Air Force Material Command has reportedly recommended that the Air Force prohibit Pinnacle Armor, Inc., from signing new contracts with the U.S. government due the allegation that Pinnacle Armor had made false claims about Dragon Skin meeting government testing standards.⁷¹

Replacing M-16 and M-4 Carbines?⁷² In the mid-1990s, the Army began fielding the M-4 carbine, a lighter, more compact version of the Vietnam-era M-16 rifle which had a history of malfunctioning in combat. Both M-16 and M-4 carbines are manufactured by Colt and are currently used by U.S. forces fighting in Iraq and

⁶⁵ Safety of Use Message (SOUM) 06-017, “Discontinue Use of Unauthorized Body Armor, Dragon Skin,” issued by Program Executive Office - Soldier, March 17, 2006.

⁶⁶ Ibid.

⁶⁷ Adam Ciralsky and Lisa Meyers, “Are U.S. Soldiers Wearing the Best Body Armor,” MSNBC.com, May 20, 2007 and Matthew Cox, “TV Report Questions Army Ban on Dragon Skin,” *Army Times*, May 21, 2007.

⁶⁸ DOD News Transcript, “DOD News Briefing with BG Brown from the Pentagon,” May 21, 2007.

⁶⁹ Letter from the Senate Armed Services Committee from Senators Levin and McCain dated May 21, 2007.

⁷⁰ Jen DiMascio, “Lawmakers Support Test of Dragon Skin Body Armor,” *Defense Daily*, Volume 234, Issue 47, June 7, 2007, p. 13 and Michelle Tan, “Army Agrees to Test Dragon Skin Body Armor,” *Army Times*, June 7, 2007.

⁷¹ Megan Scully, “Air Force Officials Seek Disbarment of Body Armor Maker,” *National Journal’s Congress Daily PM*, June 11, 2007.

⁷² Information in this section is taken from a series of articles by Matthew Cox, “Better than the M-4, But You Can’t Have One,” *Army Times*, March 1, 2007; “Competition Sought for New Army Rifle,” *Army Times*, April 27, 2007; and “Doomed Carbine the Victim of Army Infighting,” *Army Times*, June 4, 2007.

Afghanistan. While many maintain that the M-4 is a much more reliable rifle than the M-16, it is alleged that soldiers have expressed significant concerns over the M-16's and M-4's lethality and reliability during combat in Iraq and Afghanistan. In 2004, the Army's Special Forces Operational Detachment — Delta (commonly referred to as "Delta Force") replaced their M-4 carbines with Heckler & Koch 416 carbines. The Army's program to replace the M-16 family of weapons — the Objective Individual Combat Weapon (OICW) program — began in 1994 and one component of that program, Heckler & Koch's XM-8 assault rifle, was considered by some as the M-16's/M-4's replacement. As late as 2005, the XM-8 was reportedly close to being officially approved as the Army's new assault rifle, but alleged acquisition and bureaucratic conflicts within the Army and between the Army and DOD supposedly compelled the Army to cancel the XM-8 program in October 2005. The Army reportedly plans to continue its procurement of M-16s and M-4s for "years to come," and some in Congress have called for a "open competition" to choose a successor to the M-16 and M-4 assault rifles.

Reset: Replacing Damaged, Destroyed, and Worn-Out Equipment

Replacing damaged, destroyed, and worn-out equipment arguably constitutes the most significant equipment issue - both in terms of cost and magnitude - facing the Army and Marine Corps. The process of replacing this equipment is generally referred to as "reset" by the Army and the Marines and is further defined as follows:⁷³

- Reset is defined as "a series of actions taken to restore unit equipment to a desired level of combat capability after returning from contingency operations";
- Reset includes the functions of *repairing* equipment and *replacing* equipment that has either been lost in combat or worn to the point of being uneconomically repairable; and
- Reset also includes the function of *recapitalization* which is the rebuilding or systemic upgrading of currently fielded systems to a "zero time/zero miles" status which is intended to extend service life, reduce operations and support costs, and improve reliability and enhance capability - often based on lessons learned in Iraq and Afghanistan.

The Army and Reset. Army leadership has credited funding and "around-the-clock work" for an increase in FY2007's reset rate.⁷⁴ By the end of FY2007, the

⁷³ Statement by General Peter J. Schoomaker, Chief of Staff of the Army, Before the Committee on Armed Services, United States House of Representatives, "The Army's Reset Strategy and Plan for Funding Reset Requirements," June 27, 2006 and "Resetting the Force: The Equipment Challenge," Association of the United States Army (AUSA) Torchbearer National Security Report, October 2005.

⁷⁴ Information in this section is taken from a statement by BG Charles A. Anderson, MG (continued...)

Army predicts that it will have reset approximately 117,000 major items of equipment including:

- 557 Aircraft;
- 1,700 Tracked Vehicles;
- 8,115 HMMWVs;
- 1,800 Trucks;
- 1,200 Trailers;
- 39,000 Small Arms; and
- 7,400 Generators.

In FY2008, the Army hopes to reset 24 brigade combat teams (BCT), consisting of about 4,000 soldiers and about 40,000 pieces of equipment each, returning from operations in Iraq and Afghanistan.

Funds for Reset.⁷⁵ In FY2007, the Army received \$17.1 billion for reset and had obligated \$11.2 billion of those funds by February 1, 2007. Also provided in FY2007 were \$8.5 billion for reset-related procurement and \$8.6 billion for Operations and Maintenance, Army (OMA). For FY2008, the Army estimates that it will require between \$16.1 to \$17.1 billion for reset, but this figure could be higher due to requirements generated from “surge” operations in Iraq as well as the planned expansion of the Army.

Recent Congressional Actions. The House Armed Services Committee, recognizing that the increased force levels in Iraq would “increase the amount of equipment that must be reset,” recommended \$13.6 billion for Army reset for FY2008.⁷⁶ The Senate Armed Services Committee supported the Administration’s \$13.6 billion request for FY2008.⁷⁷

The Marines and Reset. The Marines estimated that the cost to rest the Marine Corps at the end of FY2006 was \$13.7 billion, a “rolling estimate that

⁷⁴ (...continued)

Vincent E. Boles, BG Robert M. Radin, and Mr. Thomas E. Mullins before the House Subcommittee on Readiness and Air and Land Forces, January 31, 2007 and Gerry J. Gilmore, “Army Equipment Reset Program Ahead of 2006 Pace,” American Forces Press Services, February 1, 2007.

⁷⁵ Ibid.

⁷⁶ House Armed Services Committee Report on the National Defense Authorization Act for Fiscal Year 2008, H.Rept. 110-146, May 11, 2007, pp. 466-7.

⁷⁷ Senate Armed Services Committee Report on the National Defense Authorization Act for Fiscal Year 2008 (S. 1547), S.Rept. 110-77, June 5, 2007.

included two years worth of depot at the conclusion of the current hostilities and is thus somewhat variable.”⁷⁸ The Marines also noted that as of February 2007, Congress had provided \$10.2 billion towards the \$13.7 billion estimated total cost of Marine reset.⁷⁹

Funds for Rest. In FY2007, the Marines received \$4.2 billion for reset and had obligated 55% of these funds by February 13, 2007.⁸⁰ For FY2008, the Marines requested \$1.7 billion towards reset requirements.⁸¹

Recent Congressional Actions. The House Armed Services Committee recommended \$8.4 billion for Marine reset for FY2008.⁸²

Potential Issues for Congress

Equipping Reserve Forces

There are continued concerns about the availability of equipment for reserve forces — particularly the Army National Guard — in terms of readiness to address domestic responsibilities as well as when these units are deployed to Iraq and Afghanistan. In January 2007, Government Accountability Office (GAO) noted that:

The high use of the National Guard for federal overseas missions has reduced equipment available for its state-led domestic missions, at the same time it faces an expanded array of threats at home.⁸³

On March 27, 2007, Lieutenant General H. Steven Blum, Chief of the National Guard Bureau, told the House Subcommittee on Readiness that the Army National Guard had only 40% of its required equipment on-hand, with an additional 11% of that equipment either deployed with units or left in theater for other units to use.⁸⁴ Lieutenant General Blum further maintained that this situation hindered the ability

⁷⁸ Statement of Lieutenant General Emerson N. Gardner, Jr., “U.S. Marine Corps and U.S. Navy Reset Requirements,” before the House Subcommittees on Readiness and on Seapower and Expeditionary Forces, February 13, 2007, p. 3.

⁷⁹ Ibid.

⁸⁰ Ibid., p. 4.

⁸¹ Statement of Honorable Donald C. Winter, Secretary of the Navy, before the House Armed Services Committee, March 1, 2007, p. 5.

⁸² House Armed Services Committee Report on the National Defense Authorization Act for Fiscal Year 2008, H.Rept. 110-146, May 11, 2007, pp. 466-7.

⁸³ United States Government Accountability Office (GAO) “Report on Reserve Forces: Actions Needed to Identify National Guard Domestic Equipment Requirements and Readiness,” GAO-07-60, January 2007, p. 1.

⁸⁴ Statement by Lieutenant General H. Steven Blum, Chief of the National Guard Bureau before the House Armed Services Committee, Subcommittee on Readiness on Readiness of the Army and Air National Guard, March 27, 2007, p. 3.

to train units and could slow the National Guard's domestic response to disasters or terrorist incidents.⁸⁵ Recent reports suggest that National Guard soldiers training for deployment to Iraq and Afghanistan are not able to train with the same rifles, HMMWVs, night vision, and other types of equipment that these soldiers will be issued when they arrive in theater which has raised questions as to how well these units will be able to function in combat when they are provided equipment that they are not familiar with?⁸⁶ The Army has reportedly pledged to spend \$21 billion over the next four years to re-equip the National Guard, but some are concerned that this equipment will instead be deployed to Iraq to support the "Surge" instead of being used to re-equip depleted National Guard units at home as they prepare to support domestic missions and train for overseas deployments.⁸⁷

Given these concerns, Congress might decide to examine DOD's and the Army's plans to re-equip National Guard units. Such an examination could focus on how units will be re-equipped to deal with domestic responsibilities and also how these units will be provided with the same equipment that they will receive upon deployment for home-station training in the United States. This examination might also examine how DOD and the Army plan to bring the Reserve's aggregate equipment level from about the current 40% level to at least the 80% level that Guard and Reserve leadership have called an "acceptable level" to meet both domestic and overseas requirements.⁸⁸

The State of Prepositioned Stocks⁸⁹

Some in Congress have expressed alarm in both the extended duration of time that DOD has allocated to reconstitute prepositioned stocks as well as a lack of a comprehensive plan to reconstitute these strategic assets. In its version of the FY2008 National Defense Authorization Act (H.R. 1585), the House Armed Services Committee requires DOD to submit an annual report on the status of U.S. prepositioned stocks, including funding requirements, intended future strategic use of these stocks, and strategic risk mitigation plan if these stocks are used before fully replenished. There are other potential considerations related to preposition stocks that Congress might decide to review. Will the Army and Marines reconstitute preposition stocks with equipment such as Armored Security Vehicles (ASVs), MRAPs, and other specialized equipment developed in response to wartime needs or will the Services instead replenish prepositioned stocks to pre-war authorization standards? Another consideration is the readiness status of equipment being used for

⁸⁵ Ibid.

⁸⁶ James Hannah, "Differences in Guard Weapons Raise Concern," *Army Times*, May 31, 2007 and Matthew Dolan, "Preparing for Battle," *Baltimore Sun*, May 31, 2007.

⁸⁷ Sonya Crawford, "National Guard Dealing with Equipment Shortages," ABC News, February 24, 2007.

⁸⁸ Jefferson Morris, "National Guard Needs \$40 Billion to Bring Equipment Up to Snuff, Chief Says," *Aerospace Daily & Defense Report*, February 1, 2007.

⁸⁹ Information in this section is taken from House Armed Services Committee press release, "House Armed Services Committee Approves Fiscal Year 2008 Defense Authorization Bill," May 9, 2007, p. 7.

replenishment. Some reports have asserted that much of the equipment being used in DOD's current restocking efforts is in poor condition and requires extensive maintenance.

Were the Services Aggressive Enough in Acquiring MRAPs?

The relatively sudden decision by the Army and Marine Corps to replace uparmored HMMWVs in Iraq with MRAPs is considered by some as a prudent force protection measure, but there is concern that DOD's plan to replace all uparmored HMMWVs in Iraq over the next two years is "too little, too late." Various commercially-available versions of MRAP-type vehicles — such as South African and Rhodesian versions — which have demonstrated their survivability in combat operations, have been available for decades.⁹⁰ Initial use of these vehicles by the Army and Marines in late 2002-early 2003 for mine and IED clearance in Iraq demonstrated their survivability. Reportedly as of May 2007, no Marines had been killed in 300 attacks on MRAPs and only 2 Army soldiers had been killed in an attack on an MRAP.⁹¹ By contrast, HMMWVs, despite a variety of initiatives to improve its armor, have continued to be vulnerable to small arms and IED attacks, resulting in a significant number of casualties. Despite these circumstances, the Army and Marines planned to continue using uparmored HMMWVs as their primary means of wheeled troop transport in Iraq as late as March 2007, noting that the HMMWVs "successor," the Joint Light Tactical Vehicle (JLTV), would be in service by 2012.

Some in public and in Congress have questioned why it has taken the Services so long to decide to provide service members with MRAPs with one member of Congress reportedly saying that the services "finally get it."⁹² Others maintain that even if DOD realizes its goal of replacing all uparmored HMMWVs in Iraq with MRAPs by December 2009, that "most of America's troops may already be home"⁹³ thereby significantly reducing the requirement for MRAPs, a vehicle that the Army and Marines consider an "interim solution."

A Replacement for M-16/M-4 Carbines?

Allegations that the successor of the Army's M-16/M-4 carbine, the Heckler & Koch's XM-8 assault rifle, was cancelled due to bureaucratic conflicts among Army and DOD acquisition officials might be an issue for congressional examination. Some may question why the Army remains committed to upgrading an almost 50-year-old weapon when other DOD organizations, such as special operations units, have adopted other weapons that are considered more reliable and effective in combat than the M-4 carbine. It can be argued that the Army has exhibited a

⁹⁰ Guy Raz, "New Mine-Resistant Vehicles Aimed at Foiling IEDs," National Public Radio, June 6, 2007 and J. Ethan Hoaldrige, "Mine Resistant Ambush Protected Vehicles Counter IEDs, Ambushes, Marine Corps News, June 24, 2005.

⁹¹ Tom Vanden Brook, "Troops in Iraq Get Safer Vehicle," *USA Today*, May 10, 2007.

⁹² Ibid.

⁹³ Guy Raz, "New Mine-Resistant Vehicles Aimed at Foiling IEDs," National Public Radio, June 6, 2007.

tendency to pursue incremental improvements to legacy systems, such as repeated add-on armor upgrades to HMMWVs, instead of fully examining and rapidly procuring commercially-available systems that prove to be more effective than current systems.