

Infantry Brigade Combat Team (IBCT) Mobility, Reconnaissance, and Firepower Programs

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Summary

Infantry Brigade Combat Teams (IBCTs) constitute the Army's "light" ground forces and are an important part of the nation's ability to project forces overseas. The wars in Iraq and Afghanistan, as well as current thinking by Army leadership as to where and how future conflicts would be fought, suggest IBCTs are limited operationally by their lack of assigned transport and reconnaissance vehicles as well as firepower against hardened targets and armored vehicles.

There are three types of IBCTs: Light, Airborne, and Air Assault. Light IBCTs are primarily foot-mobile forces. Light IBCTs can move by foot, by vehicle, or by air (either air landed or by helicopter). Airborne IBCTs are specially trained and equipped to conduct parachute assaults. Air Assault IBCTs are specially trained and equipped to conduct helicopter assaults.

Currently, the Army contends IBCTs face a number of limitations:

- The IBCT lacks the ability to decisively close with and destroy the enemy under restricted terrains such as mountains, littorals, jungles, subterranean areas, and urban areas to minimize excessive physical burdens imposed by organic material systems.
- The IBCT lacks the ability to maneuver and survive in close combat against hardened enemy fortifications, light armored vehicles, and dismounted personnel.
- IBCTs lack the support of a mobile protected firepower capability to apply immediate, lethal, long-range direct fires in the engagement of hardened enemy bunkers, light armored vehicles, and dismounted personnel in machine gun and sniper positions; with all-terrain mobility and scalable armor protection; capable of conducting operations in all environments.

To address current limitations, the Army is undertaking three programs: the Ground Mobility Vehicle (GMV), formerly known as the Ultra-Light Combat Vehicle (ULCV); the Light Reconnaissance Vehicle (LRV); and Mobile Protected Firepower (MPF) programs. These programs would be based on vehicles that are commercially available. This approach serves to reduce costs and the time it takes to field combat vehicles associated with traditional developmental efforts.

The GMV is intended to provide mobility to the rifle squad and company. The LRV would provide protection to the moving force by means of scouts, sensors, and a variety of medium-caliber weapons, and the MPF would offer the IBCT the capability to engage and destroy fortifications, bunkers, buildings, and light-to-medium armored vehicles more effectively.

Potential issues for Congress related to IBCTs include how the addition of new vehicles affects IBCT deployability; detailed plans for GMV, LRV, and MPF fielding; what additional resources are needed to support GMV, LRV, and MPF; the "way ahead" for the LRV; and the impact of FY2018 appropriations by continuing resolution on GMV, LRV, and MPF.

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Why Is This Issue Important to Congress?

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To address these limitations, the Army is undertaking three programs: the Ground Mobility Vehicle (GMV), formerly known as the Ultra-Light Combat Vehicle (ULCV); the Light Reconnaissance Vehicle (LRV); and Mobile Protected Firepower (MPF) programs. These programs would be based on vehicles that are commercially available. This is in order to reduce costs and the time it takes to field combat vehicles associated with traditional developmental efforts.

Congress may be concerned with the effectiveness of ground forces over the full spectrum of military operations. A number of past unsuccessful Army acquisition programs have served to heighten congressional oversight of Army programs, including nondevelopmental programs such as those currently being proposed for IBCTs. Along these lines, the Chairman of the Senate Armed Services Committee, Senator John McCain, recently noted, "The Army's modernization woes are undoubtedly connected to the service's disastrous acquisition record over the last two decades."¹

In addition to these primary concerns, how these new programs affect deployability and sustainability of IBCTs as well as affordability could be potential oversight issues for Congress.

Background

Brigade Combat Teams (BCTs) are the basic combined-arms formations of the Army. They are permanent, stand-alone, self-sufficient, and standardized tactical forces consisting of between 3,900 to 4,100 soldiers.² There are three types of BCTs: Armored Brigade Combat Teams (ABCTs); Stryker Brigade Combat Teams (SBCTs); and Infantry Brigade Combat Teams (IBCTs). BCTs are found both in the Active Component and the U.S. Army National Guard (USARNG).

¹ Jared Sebru, "Senate, Army Chief Cast New Doubt on Future of Army's \$6 Billion Tactical IT Network," Federal News Radio, May 29, 2017.

² Association of the United States Army (AUSA), Profile of the U.S. Army, 2016, p. 24.

Types and Numbers of BCTs

Table 1. Types and Number of BCTs, FY2018

TYPE	Active Component	U.S. Army National Guard
Armored Brigade Combat Teams (ABCTs)	10	5
Infantry Brigade Combat Teams (IBCTs)	14	19
Light	6	19
Airborne	5	—
Air Assault	3	—
Stryker Brigade Combat Teams (SBCTs)	7	2
Totals	31	26

Source: Army FY2018 Budget Request, May 2017.

There are three types of IBCTs: Light, Airborne, and Air Assault.

Light IBCTs

Light IBCTs are primarily foot-mobile forces. Light IBCTs can move by foot, vehicle, or air (either air landed or by helicopter). While IBCTs have light-and medium-wheeled vehicles for transport, there are not enough vehicles to transport all or even a significant portion of the IBCT's infantry assets in a single movement.

Airborne IBCTs

Airborne IBCTs are specially trained and equipped to conduct parachute assaults. They are equipped with limited vehicular assets, and once they have conducted a parachute assault, they move by foot, vehicle, or helicopter, just like Light IBCTs.

Air Assault IBCTs

Air Assault IBCTs are specially trained and equipped to conduct helicopter assaults. What sets them apart from Light and Airborne IBCTs (which can also conduct helicopter assaults) is that they receive additional specialized training; the division to which these BCTs are assigned—the 101st Airborne Division—has the primary mission and organic helicopter assets to conduct large-scale helicopter assaults.

How IBCTs Are Employed³

The Army's Field Manual on Brigade Combat Teams describes how IBCTs are employed as follows:

The role of the IBCT is to close with the enemy using fire and movement to destroy or capture enemy forces, or to repel enemy attacks by fire, close combat, and counterattack. Fire and movement is the concept of applying fires from all sources to suppress,

³ Information in the section is taken directly from Army Field Manual (FM) 3-96, Brigade Combat Team, October 2015, pp. 1-2.

neutralize, or destroy the enemy, and the tactical movement of combat forces in relation to the enemy (as components of maneuver applicable at all echelons). At the squad level, fire and movement entails a team placing suppressive fire on the enemy as another team moves against or around the enemy.

The IBCT performs complementary missions to SBCTs and ABCTs. IBCT complementary missions include control of land areas, populations, and resources. The IBCT optimizes for the offense against conventional, hybrid, and irregular threats in severely restrictive terrain. The IBCT performs missions such as reducing fortified areas, infiltrating and seizing objectives in the enemy's rear, eliminating enemy force remnants in restricted terrain, securing key facilities and activities, and conducting stability in the wake of maneuvering forces.

IBCTs easily configure for area defense and as the fixing force component of a mobile defense. The IBCT's lack of heavy combat vehicles reduces its logistic requirements. Not having heavy combat vehicles gives higher commanders greater flexibility when adapting various transportation modes to move or maneuver the IBCT.

Operational Environment

Chief of Staff of the Army, General Mark A. Milley, characterizes the operational environment confronting the Army as follows:

I believe we are on the cusp of a fundamental change in the character of war. Technology, geopolitics and demographics are rapidly changing societies, economies, and the tools of warfare. They are also producing changes in why, how and where wars are fought—and who will fight them. The significantly increased speed and global reach of information (and misinformation) likewise will have unprecedented effects on forces and how they fight.

For example, the proliferation of effective long-range radars, air defense systems, long-range precision weapons, electronic warfare and cyber capabilities enables adversary states to threaten our partners and allies. Even if we do not fight the producers of these sophisticated weapons, warfare will become more lethal as they export this advanced equipment to their surrogates or customers. Crises involving such adversaries will unfold rapidly, compressing decision cycles and heightening the risks of miscalculation or escalation.

Conflict will place a premium on speed of recognition, decision, assembly and action. Ambiguous actors, intense information wars and cutting-edge technologies will further confuse situational understanding and blur the distinctions between war and peace, combatant and noncombatant, friend and foe—perhaps even humans and machines.

Warfare in the future will involve transporting, fighting and sustaining geographically dispersed Army, joint and multinational forces over long and contested distances, likely into an opposed environment and possibly against a technologically sophisticated and numerically superior enemy. All domains will be viciously contested, and both air and maritime superiority—which have been unquestioned American advantages for at least 75 years—will no longer be a given. Forces in theater should expect to operate under increased public scrutiny, persistent enemy surveillance, and massed precision long-range fires with area effects. Close combat on sensor-rich battlefields of the future will be faster, more violent and intensely lethal, unlike anything any of us have witnessed. And the majority of our operations will likely occur in complex, densely populated urban terrain.⁴

⁴ “Chief of Staff of the Army: Changing Nature of War Won’t Change Our Purpose,” Association of the United States (continued...)

In relation to this operational environment, IBCTs are presented with the following challenges:

In the past, light infantry of the 82nd Airborne, 101st or 10th Mountain Division would either air drop by parachute, helicopter air assault, or air land at a friendly or secured airfield or land near one to seize it. However, Anti-Access Area Denial (A2AD) technology and weapons, like air defense systems and anti-armor, mines and improvised explosive devices (IEDs), have become both more effective and prevalent. These open the question of whether traditional insertion drop or landing zone is feasible any longer. It is increasingly likely that an “off set insertion” will be necessary with the ground force then moving by land to the objective or operating area.

The concept itself is largely an upscaling of what U.S. and other nations’ special operations, reconnaissance, and even some airborne units have been doing for some time: using light vehicles, including light armored vehicles that are inserted by airdrop, helicopter, or tactical transport air landing. Using the vehicles they are able to insert discretely where they are unlikely to be detected and then conduct their missions.⁵

Current and Projected IBCT Capability Gaps

The Army describes IBCT critical capability gaps from 2017 to 2021 as follows:⁶

- The IBCT lacks the ability to decisively close with and destroy the enemy under restricted terrains such as mountains, littorals, jungles, subterranean areas, and urban areas to minimize excessive physical burdens imposed by organic material systems.
- The IBCT lacks the ability to maneuver and survive in close combat against hardened enemy fortifications, light armored vehicles, and dismounted personnel.
- IBCTs lack the support of a mobile protected firepower capability to apply immediate, lethal, long-range direct fires in the engagement of hardened enemy bunkers, light armored vehicles, and dismounted personnel in machine gun and sniper positions; with all-terrain mobility and scalable armor protection; capable of conducting operations in all environments.

How Programs Address Capability Gaps

In its current configuration, Army officials note that IBCTs “can get there fast with low logistics demand, and they can work in severely restricted terrain, but they lack mobility and protected firepower”⁷ to “enter a foreign territory, immediately overcome armed opposition and hold an area that enables further troops to enter, like an airfield.”⁸

The Army’s concept of operation for these vehicles is to

(...continued)

Army (AUSA), October 1, 2016.

⁵ Stephen W. Miller, “Ground Mobility for U.S. Light Infantry,” *Military Technology*, October 2016, p. 49.

⁶ Information in this section is taken directly from an Army G-3/5/7 briefing given to Senate staffers on “Mobile Protected Firepower, Ultra-Light Combat Vehicle & Light Reconnaissance Vehicle,” November 3, 2014, p. 5, and comments from Army Staff, September 15, 2017.

⁷ Joe Gould, “U.S. Army Researches Light Vehicle Concepts, Futures Chief Says,” *Defense News*, December 16, 2014.

⁸ Joe Gould, “U.S. Army Officials: Field Ultralight Vehicles Quickly,” *Defense News*, January 15, 2015.

- increase ground tactical mobility in the IBCT;
- allow infantry squads and rifle companies to quickly move extended distances over difficult terrain to seize assault objectives;
- allow rapid deployment into contested areas while providing high mobility and flexibility upon arrival; and
- limit the impact on strategic mobility of the IBCT.⁹

In this regard, the GMV is intended to provide mobility to the rifle squad and company; the LRV to provide protection to the moving force by means of scouts, sensors, and a variety of medium-caliber weapons; and the MPF to provide the overall IBCT the capability to more effectively engage and destroy fortifications, bunkers, buildings, and light to medium armored vehicles.

The Systems¹⁰

The GMV, LRV, and MPF are briefly described in the following sections based on each individual vehicle's requirements.

GMV

Figure 1. Illustrative GMV



Source: John Keller, "General Dynamics Wins SOCOM Competition to Build Ground Mobility Vehicle GMV I.1," *Military & Aerospace Electronics*, August 25, 2013.

⁹ Project Manager Transportation Systems, GMV Industry Day Briefing, August 9, 2016, p. 7. Ground tactical mobility is a unit's ability to move under combat conditions on the ground to a combat objective. Strategic mobility is the unit's ability to deploy from home station—normally by air or by sea—to a designated operational area.

¹⁰ Information in this section is taken directly from an Army G-3/5/7 briefing given to Senate staffers on "Mobile Protected Firepower, Ultra-Light Combat Vehicle & Light Reconnaissance Vehicle," November 3, 2014, p. 6, and comments from Army Staff, September 15, 2017.

- **Payload:** Nine soldiers/3,200 pounds capacity.
- **Transportability:** UH-60 sling load/CH-47 internal load; Air drop from C-130.
- **Mobility:** Provide mobility 75% cross-country; 10% primary roads; 10% secondary roads; 5% urban rubble environment.
- **Protection:** Provided by high mobility avoiding enemy contact and soldier Personal Protection Equipment (PPE).¹¹
- **Lethality:** Provide capability to host crew-served weapons assigned to the infantry squad.
- **Command, Control, Communications, Computers, Intelligence, Reconnaissance, and Surveillance (C4ISR):** No requirement for added communication equipment or Size, Weight, Power, and Cooling (SWaP-C) organic equipment of the infantry squad.

LRV

Figure 2. Illustrative LRV



Source: Colin Clark and Sydney J. Freedberg Jr., “Oshkosh Shows Off Big Gun JLTV: 30mm Cannon,” *Breaking Defense*, October 12, 2015.

- **Transportability:** CH-47 internal load (in combat configuration). Air drop from C-130.
- **Range:** Greater than 300 miles on internal fuel.
- **Mobility:** Provide mobility 75% cross-country; 10% primary roads; 10% secondary roads; 5% urban rubble environment.
- **Lethality:** Medium-caliber weapon system to provide precision “stand-off” lethality against small arms and offense against light armored vehicles.

¹¹ PPE includes a soldier’s helmet, body armor, and other accoutrements designed to protect against blast; fragmentation; thermal; and nuclear, biological, and chemical (NBC) threats.

- **Protection:** Protection from small arms.
- **Capacity:** Six scouts with combat equipment.
- **Command, Control, Communications, Computers, Intelligence, Reconnaissance, and Surveillance (C4ISR):** Ensure sufficient Size, Weight, Power, and Cooling (SWaP-C) to facilitate the integration of current and future communications organic to an IBCT. Support scout sensor package.

MPF

Figure 3. Illustrative MPF

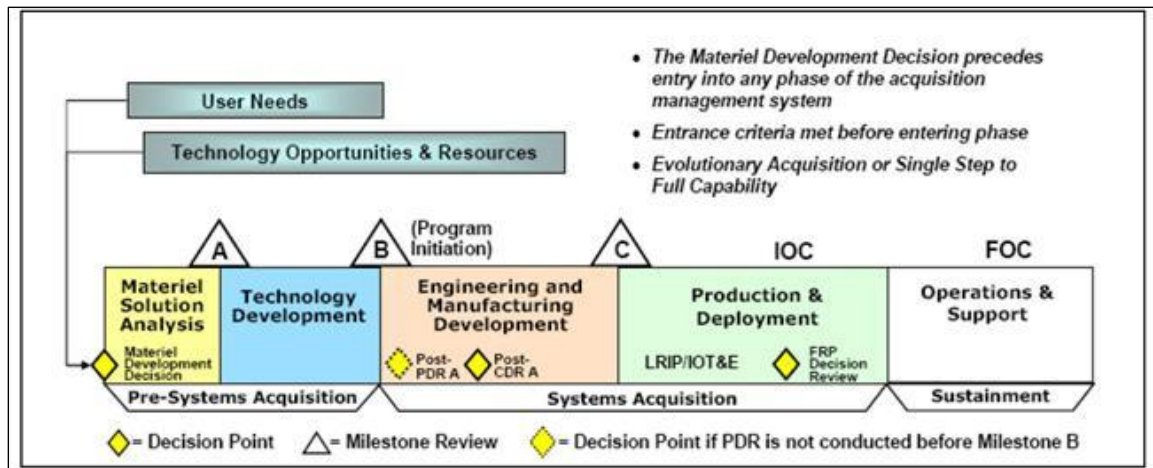


Source: Margaret C. Roth, “Vehicular Visions,” *Army News Service*, February 9, 2017.

- **Range:** 300 kilometer range; 24-hour operations “off the ramp” or on “arrival at drop zone (DZ).”
- **Mobility:** Capable of traversing steep hills, valleys typical in cross-country and urban terrain, and ford depths equal to that of other organic IBCT vehicles.
- **Lethality:** Ability to defeat defensive fortifications (bunkers), urban targets (behind the wall), and armored combat vehicles.
- **Protection:** Scalable armor to include underbelly protection.
- **Communications Network:** SWaP-C sufficient to support current and future communications organic to an IBCT.

Programmatic Overview

The following sections provide brief programmatic overviews of the vehicles. **Figure 4** depicts the Department of Defense (DOD) Systems Acquisition Framework, which illustrates the various phases of systems development and acquisitions and is applicable to the procurement of these three systems.

Figure 4. DOD Systems Acquisition Framework

Source: Defense Acquisition University Defense Acquisition Portal, at <https://dap.dau.mil/aphome/das/Pages/Default.aspx>, accessed September 5, 2017.

The Army's Acquisition Strategy

The Army plans to acquire the vehicles as modified Non-Developmental Item (NDI) platforms. Because the Army adopted the NDI acquisition approach for all three vehicles, the Army can enter the programs at Acquisition Milestone C: Production and Deployment, and forgo the Technology Development Phase associated with developmental items (systems developed “from scratch”) if so desired. Variations of these vehicles already exist commercially, and in order to meet Army requirements, they would require minor modifications. The Army chose this acquisition strategy because a survey of potential candidates suggested a number of existing vehicles—with minor modifications—could meet the Army’s requirements. In the case of the MPF, which was less well-developed than the GMV, the MPF underwent an Analysis of Alternatives (AoA) as part of the Material Solution Analysis phase, which was completed September 7, 2017.¹²

Theoretically, adopting a NDI approach for all three vehicles could lead to a shorter acquisition timeline and a less expensive overall acquisition. The NDI approach is not without risk, however, as the Technology Development Phase permits a more detailed examination of candidate systems, which can help identify and address requirement shortfalls earlier in the acquisition process (a less expensive solution as opposed to identifying and correcting problems later in a system’s development). In all cases, a full and open competition is expected for all three vehicles.

GMV

In March 2015, the Army changed the name of its Ultra-Light Combat Vehicle (ULCV) to the Ground Mobility Vehicle (GMV).¹³ The overall GMV Army Acquisition Objective (AAO) is 2,065 vehicles for the Army and 317 vehicles for U.S. Army Special Operations Command (USASOC). The specific near-term requirement is 295 vehicles for the five Airborne IBCTs and

¹² Jen Judson, “U.S. Army on Fast Track to Get Mobile Protected Firepower into the Force,” *Defense News*, June 28, 2017, and comments from Army Staff, September 15, 2017.

¹³ Joe Gould, “US Army to Issue Ultralight Vehicle RFP Next Year,” *Defense News*, September 5, 2015.

317 vehicles for USASOC.¹⁴ The Army's FY2018 budget request modified the Army's original acquisition strategy for the GMV, essentially splitting it into two phases.¹⁵ In the first phase, the Army plans to procure GMVs for the five Airborne IBCTs through a U.S. Special Operations Command (USSOCOM) contract already in place for a similar vehicle (GMV 1.1) for USSOCOM forces. In this case, the Army plans to purchase the Flyer 72 vehicle from General Dynamics Ordnance and Tactical Systems.¹⁶ The Army contends the limited buy of 295 GMV 1.1 vehicles for the five Airborne IBCTs is the quickest way to field this interim capability that has gone through USSOCOM-sponsored testing and shares the same repair parts, thereby reducing costs.

The second phase of the GMV program would be to acquire 1,700 GMVs through a full and open competition once the Army has refined its requirements, which is intended to reduce the overall cost. Army officials note the GMV 1.1 procurement cost will be higher, however, than the cost of the GMVs procured through full and open competition. The Army plans to spend \$194.8 million for 718 vehicles from FY2018 to FY2022, with an expectation that a contract award would be made in FY2020.¹⁷

LRV

Army officials are currently planning to use the Joint Light Tactical Vehicle (JLTV)¹⁸ to serve as the LRV on an interim basis.¹⁹ From a programmatic perspective, the Army refers to its interim LRV solution as the Joint Light Tactical Vehicle-Reconnaissance Vehicle (JLTV-RV). The JLTV, which is currently in production, could be equipped with additional firepower and sensors to serve in this role while the Army continues to refine its requirements for the LRV. The standard JLTV—at around 18,000 pounds and carrying only four soldiers—does not meet the Army's weight and crew requirements for the LRV as currently envisioned. The Army plans for the LRV to be fielded in IBCT Cavalry Squadrons and Infantry Battalion Scout Platoons.

MPF

In October 2016 the Army began its Analysis of Alternatives for MPF candidates.²⁰ MPF would also be a modified Non-Developmental Item (NDI) platform.²¹ The Engineering Manufacturing Development (EMD) phase is planned to begin in FY2019 and last through FY2022, with an anticipated Milestone C—beginning of Production and Deployment—by FY2022. Reports

¹⁴ Department of Defense FY2018 Budget Estimates, Justification Book of Other Procurement, Army Tactical and Support Vehicles, Budget Activity 1, May 2017, p. 14.

¹⁵ Ibid and Jen Judson, "Big Delays Hit Army Ground Mobility Vehicle Buy," *Defense News*, June 12, 2017.

¹⁶ Information in this section is from Jen Judson, "Big Delays Hit Army Ground Mobility Vehicle Buy," *Defense News*, June 12, 2017.

¹⁷ Department of Defense FY2018 Budget Estimates, Justification Book of Other Procurement, Army Tactical and Support Vehicles, Budget Activity 1, May 2017; and Jen Judson, "Big Delays Hit Army Ground Mobility Vehicle Buy," *Defense News*, June 12, 2017.

¹⁸ For additional information on the JLTV, see CRS Report RS22942, *Joint Light Tactical Vehicle (JLTV): Background and Issues for Congress*, by Andrew Feickert.

¹⁹ Courtney Mc Bride, "Officials: JLTV to Fill Role of Light Recon Vehicle 'for the Foreseeable Future'," *Inside Defense*, March 16, 2016.

²⁰ Connie Lee, "MPF Cleared to Begin Analysis of Alternatives," *Inside Defense*, October 28, 2016.

²¹ Information in this section is taken from Department of Defense FY2018 Budget Estimates, Justification Book of Research, Development, Test & Evaluation, Army RDT&E – Volume II, Budget Activity 5A, May 2017, p. 153.

suggest the Army has a requirement for about 500 MPF vehicles with an average unit manufacturing cost of \$6 million to \$7 million per vehicle, which suggests a total program cost of approximately \$3 billion to \$3.5 billion.²² The Marine Corps is reportedly monitoring MPF development for possible use in its Marine tank battalions, which could raise the overall MPF procurement to around 600 vehicles.²³

Budgetary Considerations

FY2018 Budget Request

GMV

The FY2018 Army GMV budget request for \$40.935 million in procurement funding supports the procurement of 100 GMVs to support production of the Army Version of the GMV1.1 USSOCOM Vehicle, logistics product development, engineering support, and program management.²⁴

LRV

The FY2018 Army LRV budget request is for \$6 million in Research, Development, Test & Evaluation (RDT&E) funding to procure testing assets for performance testing, logistics demonstration, and a limited users test.²⁵ From a programmatic perspective, the Army refers to its interim LRV solution as the Joint Light Tactical Vehicle-Reconnaissance Vehicle (JLTV-RV).

MPF

The FY2018 Army MPF budget request for \$36.242 million in Research, Development, Test & Evaluation (RDT&E) funding supports preparation of a request for proposal (RFP) in the first quarter of FY2018 and the development of 20 large-caliber gun tubes that would be used for prototypes to be delivered in 2019.²⁶

H.R. 2810, National Defense Authorization Act for FY2018 (House-Passed Version)

GMV

H.R. 2810 recommends fully funding the FY2018 budget request for the GMV.²⁷

²² Jason Sherman, "Army Set to Consider Formal Launch of Mobile Protected Firepower Acquisition," *Inside Defense*, October 14, 2016.

²³ Josh Cohen, "Mobile Protected Firepower Bridges Infantry Brigade Combat Teams Direct Fire Capability Gap," *The National Interest*, August 8, 2017.

²⁴ Department of Defense FY2018 Budget Estimates, Justification Book of Other Procurement, Army Tactical and Support Vehicles, Budget Activity 1, May 2017, p. 13.

²⁵ Department of Defense FY2018 Budget Estimates, Justification Book of Research, Development, Test & Evaluation, Army RDT&E – Volume II, Budget Activity 5A, May 2017, pp. 152- 153, pp. 146-150.

²⁶ *Ibid.*, pp. 152- 153.

²⁷ H.Rept. 115-200, National Defense Authorization Act for Fiscal Year 2018, July 6, 2017, p. 362.

LRV

H.R. 2810 recommends fully funding the FY2018 budget request for the LRV (JLTV-RV).²⁸

MPF

H.R. 2810 recommends fully funding the FY2018 budget request for the MPF.²⁹ The House report also contains the following legislative language:

Mobile Protected Firepower

The committee understands that as part of the Army's modernization strategy, the Army is attempting to improve the tactical mobility and lethality of infantry brigade combat teams (IBCTs).

The committee notes the mobile protected firepower (MPF) combat vehicle program would provide the Army's IBCTs with a mobile and survivable direct fire capability to defeat enemy armored vehicles, hardened fortifications, and dismounted personnel. The committee recognizes that the Army Chief of Staff has made MPF a high priority modernization program, and notes the Army is actively engaging with the industrial base to ensure clarity of requirements. The committee believes the Army is developing strategies to potentially accelerate the MPF schedule given that the current projected schedule has MPF fielding beginning in 2024.

Therefore, the committee directs the Secretary of the Army to provide a briefing to the House Committee on Armed Services by October 5, 2017, that outlines potential opportunities for MPF program acceleration. The briefing should include a review of testing requirements and potential areas for consolidation; funding required in fiscal year 2018 and beyond to accelerate the program; and any areas of legislative relief that would be required in order to accelerate the program.³⁰

S. 1519, National Defense Authorization Act for FY2018 (Senate Committee-Passed Version)

GMV

S. 1519 recommends fully funding the FY2018 budget request for the GMV.³¹

LRV

S. 1519 recommends fully funding the FY2018 budget request for the LRV (JLTV-RV).³²

MPF

S. 1519 recommends fully funding the FY2018 budget request for the MPF.³³

²⁸ Ibid., p. 424.

²⁹ Ibid.

³⁰ Ibid., pp. 50-51.

³¹ S.Rept. 115-125, National Defense Authorization Act for Fiscal Year 2018, July 10, 2017, p. 386.

³² Ibid., p. 444.

³³ Ibid.

H.R. 3219, Department of Defense Appropriations Bill, FY2018 (House-Passed Version)

GMV

H.R. 3219 recommends fully funding the FY2018 budget request for the GMV.³⁴

LRV

H.R. 3219 recommends fully funding the FY2018 budget request for the LRV (JLTV-RV).³⁵

MPF

H.R. 3219 recommends fully funding the FY2018 budget request for the MPF.³⁶

Potential Issues for Congress

IBCT Deployability

One of the noted capabilities of the IBCT is its strategic mobility, which enables it to be deployed more rapidly than ABCTs or SBCTs. The addition of GMVs, LRVs, and MPF to IBCTs most likely would affect the deployability of IBCTs, and raises some potential questions. Would the addition of these vehicles increase the numbers of Air Force transport aircraft needed to transport the IBCT and, if so, how many more aircraft (by type) would be needed to move the IBCT? If additional aircraft are required, has this mobility requirement been coordinated with the Air Force so that it can be incorporated into the Air Force's budgetary requirements? With the addition of these vehicles to IBCTs, how much longer would it take to deploy an IBCT? Has this been factored into the Combatant Commander's operational and contingency plans? For Air Assault IBCTs, would additional Army aviation assets be required to accommodate these vehicles when conducting air assault operations? If so, has this requirement been programmed for in future budgets?

GMV, LRV, and MPF Fielding

Apart from fielding GMV 1.1s to Airborne IBCTs, little is known about the Army's overall fielding plan for these vehicles. Would active IBCTs receive these vehicles first, followed by National Guard IBCTs, or would both components receive the vehicles concurrently? When would these vehicles begin arriving at units, and when is the overall fielding anticipated to conclude? Does the Army plan to field these vehicles to pre-positioned stocks in addition to units? What are some of the challenges associated with fielding three different vehicles with different production and delivery dates?

³⁴ H.Rept. 115-219, Report on Department of Defense Appropriations Bill, 2018, July 13, 2017, p. 131.

³⁵ Ibid., p. 216.

³⁶ Ibid.

Additional Resources to Support GMV, LRV, and MPF

With the addition of these vehicles to IBCTs, a range of additional resources would likely be needed to support these vehicles, all of which have budgetary implications for the Army. Would additional personnel need to be assigned to IBCTs to support and maintain these vehicles, and would new units need to be established in IBCTs for this purpose? What types of repair parts and special equipment would need to be acquired by IBCTs to support GMVs, LRVs, and MPF? How might this impact deployability? What type of entry level and sustainability training would be required for these vehicles, and where would this training be conducted? On bases where IBCTs are stationed, would additional facilities be required to store and maintain these vehicles? Would special additional training ranges need to be established at relevant bases? If not, what types of modifications would be needed to existing training ranges and maneuver areas to accommodate these vehicles?

The Way Ahead for LRV

The LRV's role of providing protection to the moving force by means of scouts, sensors, and a variety of medium-caliber weapons is seen as essential for the IBCT, but other than using JLTVs as an interim solution, little is publicly known about the Army's long-term plans for the LRV. While the Army continues to refine its LRV requirements, it could be beneficial from a programmatic and budgetary perspective to develop a more detailed "way ahead" for the LRV program similar to the GMV and MPF.

Impact of a Potential Fiscal Year-Long Continuing Resolution (CR) on GMV, LRV, and MPF

On September 8, 2017, President Trump signed the Continuing Appropriations Act, 2018 and Supplemental Appropriations for Disaster Relief Requirements Act, 2017 (P.L. 115-56). The act provides appropriations, including those for the Department of Defense, through December 8, 2017. Prior to that act, responding to an August 29, 2017, request from Congress, Secretary of Defense James Mattis noted the potential impacts of a potential year-long CR. The Army appears to be the most heavily affected service, with 38 projects impacted.³⁷ The Army notes that under a CR, the GMV would not be affected, but the MPF would be classified a "New Start," and RDT&E activities could not begin until a budget is passed.³⁸ Reportedly, LRV prototype work is also classified as a "New Start," and without budget authority, the program schedule would be slipped by three months.³⁹ Mission equipment packages and associated test vehicle procurements would be delayed, resulting in a cost increase of approximately \$10 million due to conflict with JLTV fielding. Such a delay would also result in increased unit disruptions.⁴⁰

Congress might decide to examine fiscal year-long CR impacts on these programs in greater detail. Possible questions include, How does P.L. 115-56 affect the Army's ability to address IBCT capability gaps in the near term, and how much could this increase the overall cost of acquiring these three systems? What are some of the near-term operational risks associated with

³⁷ Aaron Mehta, "Mattis Outlines Impacts of Continuing Resolution: Army Worst Hit," *Defense News*, September 13, 2017.

³⁸ Input from Army Staff, September 15, 2017.

³⁹ "New Starts" obtained from *Inside Defense*, August 3, 2017, p. 15.

⁴⁰ Ibid.

IBCT employment and effectiveness given the CR's impact on these programs? In terms of the LRV, how might FY2018 funding by continuing resolution affect the fielding of JLTVs to units, and could this also increase the overall JLTV program cost?

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