

Expanding Role of Mobile Protected Firepower for Army 2030

by LTC (Retired) Lee F. Kitchen and MAJ Aram M. Hatfield

The U.S. Army awarded General Dynamics Land Systems a low-rate initial-production contract June 28, 2022, to produce 96 mobile protected firepower (MPF) vehicles capable of providing infantry brigade combat teams (IBCT) with “greater survivability, the ability to identify threats early and at greater distance ... allowing Soldiers to move at a faster pace.”¹ The MPF’s shock, mobility and firepower will provide the light-infantry division the ability to fight and win in multidomain large-scale combat operations. However, this use case is decidedly narrow in scope.

The MPF’s expeditionary characteristics make it viable in operations where heavier vehicles cannot be employed. The MPF can serve in a wider variety of roles across the land domain beyond its planned purpose as an infantry-support weapon in the light-infantry division. Expanding the role of the MPF in both light and armor-centric divisions and corps can greatly increase the mobility and firepower of the Army’s largest tactical formations.

The MPF is the Army’s first new tank since fielding the M1 Abrams main battle tank (MBT) in 1980. The M551 Armored Reconnaissance/Airborne Assault Vehicle, “General Sheridan,” which entered service in 1966, was the Army’s last light tank. Although the Sheridan possessed the attributes of a light tank – such as thinner armor and less weight than the MBT, and greater strategic and tactical mobility than a heavier tank – the Army refused to call the M551 a light tank. Similarly, calling the MPF something other than a tank “is intended to dissuade service members from viewing it as a tank-like vehicle and then employing in the same way as the M1.”²

Certainly, the lighter weight and protection of the MPF vehicle necessitates that it be employed differently than the better-protected M1. This does not mean that the system must

be relegated to the duties of an assault gun. Commanders should consider the possibility of collectively employing the MPF to exploit opportunities and achieve objectives through overwhelming shock and firepower.

Restating requirement for light tank

Since the M551’s retirement, light formations resorted to using uparmored humvees with a variety of weapons as a replacement for the M551. Near-peer adversaries during the same period continued to field strategically

and tactically deployable light armored fighting vehicles far more lethal and survivable than uparmored humvees. Recognizing the need for more substantial armor support to infantry, the XVIII Airborne Corps has frequently requested mechanized company-teams to support IBCTs during Joint Readiness Training Center (JRTC) rotations and for future contingency operations.³

MG John W. Nicholson Jr., commanding 82nd Airborne Division, voiced the need for a platform that would provide the division with capabilities like



Figure 1. M551 Sheridans of Troop E, 17th Cavalry, 101st Airborne Division, at Fort Campbell, KY, in April 1972. (U.S. Army photo)



Figure 2. M8 Armored Gun System (AGS) Level 2 armor, circa 1994. (U.S. Army photo)



Figure 3. The MPF ground-combat vehicle from General Dynamics Land Systems. (U.S. Army photo)

those of M551. “Having [MPF] that can be delivered either by air-drop or air-land enables us to retain the initiative we gain by dropping in,” MG Nicholson said. “But if all we are doing is jumping in and then moving at the speed of World War II paratroopers, we are going to rapidly lose the initiative we gained by conducting strategic or operational joint forcible entry.”⁴

The MPF has since evolved from an idea to a platform capable of “neutralizing enemy prepared positions and bunkers and defeating heavy machine-guns and armored vehicle threats during offensive operations or when conducting a defensive operation against attacking enemies.”⁵

While the MPF provides substantial firepower to the IBCT, the Russo-Ukrainian war raises significant questions about the survivability of armor in modern war. Ukrainian troops have been extremely effective at destroying Russian vehicles with man-portable anti-tank guided missiles (ATGMs). Without an active countermeasure system, armored vehicles remain highly vulnerable to ATGMs and other projectiles. Considering the reality that dismounted infantry and indirect fires cannot completely defeat enemy anti-armor threats, the final production design of the MPF will be capable of mounting the Trophy Active Protection System.⁶

MPF in division

The planned organization for MPF, according to the Army 2030 divisional

realignment, provides each light division with an armor battalion consisting of three MPF companies, a forward-support company and a headquarters and headquarters company. Since the primary purpose of the MPF battalion is to support infantry brigades and battalions by detaching MPF companies and platoons to them, the battalion headquarters will lack the full staffing required to conduct battalion-level tactical operations. Instead, the battalion’s primary function is to provide training, administrative and sustainment support to the companies as they support the infantry.⁷

The inherent versatility of the MPF allows a wider variety-of-use cases and force-structure models that can provide division commanders with a greater set of options. In World War II, the Army pooled separate tank battalions at the corps or field-army levels for piecemeal attachment to an infantry division, regiment or battalion deemed in need of armor support. The separate tank battalion retained the capability to fight, in its organic organization, as part of a larger task force or in support of a division or corps.⁸

The Army of 2030 should retain this capability for flexible employment by making the MPF battalion a warfighting formation capable of conducting battalion-level operations in support of division objectives. Organizing the MPF battalion as a non-tactical formation prevents the division commander from fully exploiting the range of the MPF’s capabilities. For example, a

tactical MPF headquarters could mass its battalion in a counterattack during a division defense, bringing its overwhelming shock and firepower to bear on an unsuspecting enemy. Without a tactical battalion headquarters to command and control the division’s MPF, commanders may have to settle for local counterattacks by MPF companies in each brigade’s sector.

It is understandable that the Army must make hard choices in an environment of fiscal and personnel constraints, but a resource decision should not diminish the capabilities of a weapon system. Division commanders who intend to employ the MPF battalion as a tactical headquarters should man it as such by moving the appropriate staff and personnel to the battalion from across the division. While this induces risk in other tactical battalions by removing manpower, the result is a tactical armor battalion capable of massing an extraordinary amount of the division’s combat power at a decisive point.

Many organizational structures are viable if the Army designs the divisional MPF battalion as a tactical headquarters. The Army published doctrine for such an organization in 1994 in preparation for the fielding of the M8 AGS, which it eventually canceled. Field Manual (FM) 17-18, *Light Armor Operations*, since rescinded, states that the divisional M8 AGS battalion could fight as a maneuver force when the enemy has a considerable mechanized or armored force; terrain favors the use of it as a maneuver force; or a contingency mission has matured to the level that the entire division has deployed. A modern interpretation of this concept is a task-organized provisional combined-arms battalion-light (CAB-L).

One possible organization for the CAB-L (Figure 4) would add a rifle company to the MPF battalion to provide local security and counter anti-tank threats. The rifle company would be equipped with infantry-squad vehicles to maintain pace with the MPF. Depending on the mission variables, the CAB-L would accept other enablers to aid in mission accomplishment. In this configuration, the division commander can employ the CAB-L to provide more firepower

to the main effort or to use the CAB-L's mobility and shock action for penetration or exploitation operations.⁹

MPF in combined joint forcible-entry amphibious operations

Defending his service's decision to eliminate its tank battalions, Marine Corps Commandant GEN David Berger said, "We need an Army with lots of tanks ... We don't need a Marine Corps with tanks." The Marine Corps' decision to divest its tanks created a natural role for the MPF in amphibious joint forcible-entry operations, a mission not previously considered when designing the MPF.¹⁰ The Abrams' strategic-deployment limitations, size and heavy sustainment requirements complicate its employment in amphibious operations. The MPF provides advantages over legacy armor in the Indo-Pacific's dense jungle environment, numerous islands and unimproved roads, not to mention its potential employability on existing amphibious-landing craft.

Bearing in mind that the latest iteration of FM 3-0, **Operations**, includes a chapter on Army operations in maritime environments, MPF-equipped light divisions that are regionally aligned to the Indo-Pacific region should consider their contribution to amphibious operations. One example is employing a variation of the CAB-L concept to rapidly expand a Marine Corps-established beachhead while the joint force continues to build combat power. The MPF is a natural fit to fill the armor gap left by the Marine Corps, and it possesses further utility outside of the light division as well.

MPF in future armor-centric divisions

Beyond its planned employment in light-infantry divisions, the MPF's mobility and firepower make it a viable replacement for the M1 tank in cavalry formations of the future armor-centric divisions. Its lighter weight gives it greater agility and mobility than the Abrams, allowing it increased maneuverability in restricted and urban terrain. The MPF's weight reduces the road and bridge limitations on the

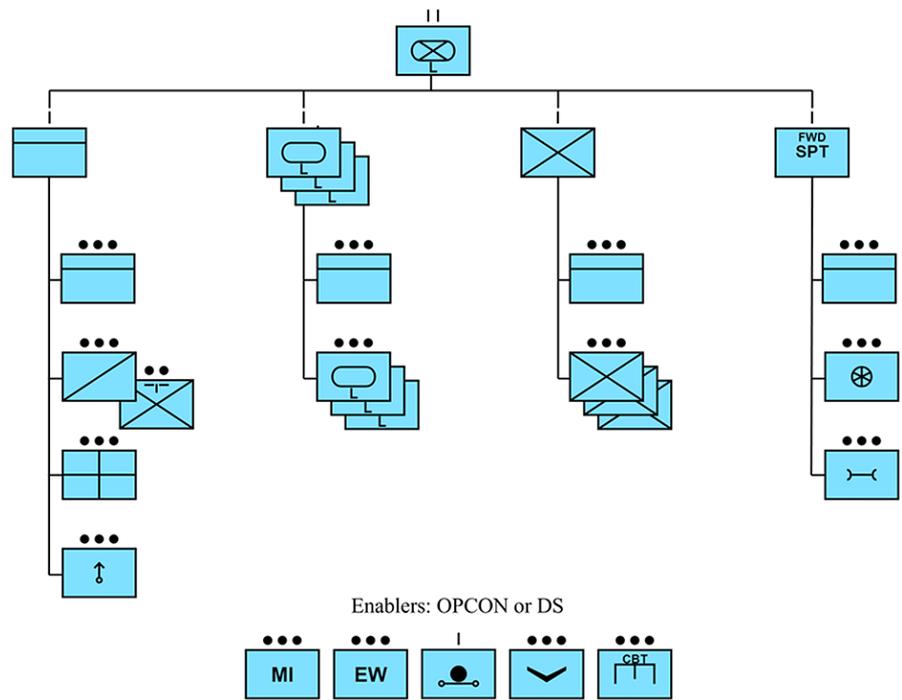


Figure 4. CAB-L organization.

North Atlantic Treaty Organization's eastern flank that otherwise provide mobility challenges to armor-centric formations, and it offers advantages in the Indo-Pacific as previously stated. Employing the MPF in a heavy cavalry formation does introduce tradeoffs; its reduced firepower and lighter armor may diminish its ability to fight for information. However, its greater strategic and tactical mobility and greater agility are reasonable offsets to the relative reductions in firepower and protection.

Commanders must also consider the operational environment's restrictions on their own heavy armor will also affect the enemy's ability to introduce tanks; employing the MPF in these scenarios may provide U.S. forces with a significant advantage over an under-equipped adversary. When teamed with the Bradley Fighting Vehicle or its future replacement, the MPF provides the commander with a well-rounded reconnaissance formation capable of performing high-tempo cavalry operations in the Army's current regions of focus.

Corps armored-cavalry regiment-light

In addition to its practicality in both light and armor-centric divisions, the

MPF can provide the Army's light corps with the basis for a potent reconnaissance and security (R&S) formation. While the division's focus is tactical maneuver, the focus of the corps is shaping conditions and circumstances through its enablers and organic assets to ensure the success of its assigned divisions.¹¹ Essential to the success of a corps is a formation that can provide the full range of R&S operations.

Since the conversion of 2nd and 3rd Armored Cavalry Regiments (ACRs) to Stryker brigade combat teams (SBCTs) in 2005 and 2013 respectively, the Army has been without a purpose-built corps-level R&S formation. An MPF-centric ACR that mixes lighter reconnaissance vehicles with the heavier-hitting MPF provides the corps with an R&S formation that possesses the necessary mobility and firepower to fight for information across a broad range of operational environments.

The ACR-light (ACR-L) would consist of three cavalry squadrons consisting of two MPF companies and two cavalry troops. The ACR-L would also include a fires squadron, a sustainment squadron and more enablers from the corps as needed.

Employing light armor in an ACR is not

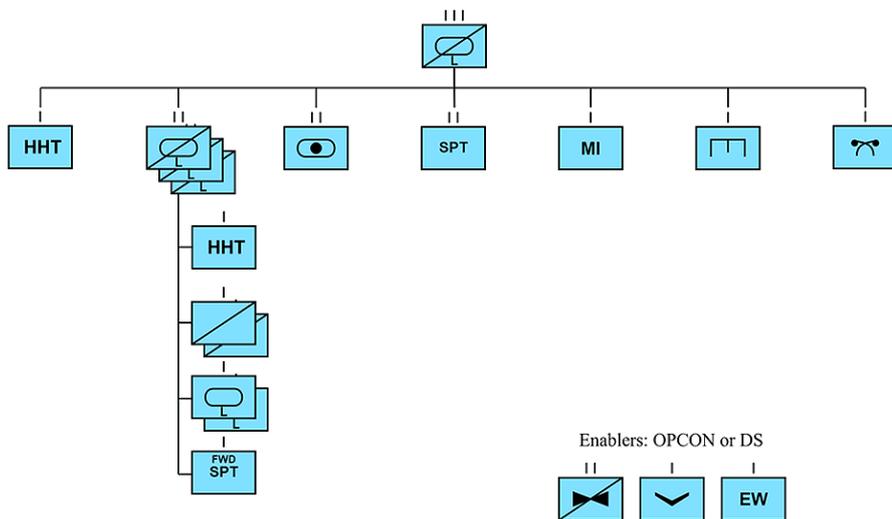


Figure 5. ACR-L organization.

without precedent; before the cancellation of the M8 AGS, the Army planned to field M8s to 2nd ACR, granting the regiment a greater capacity to aggressively fight for information. Given the complexity and the scope of corps-level R&S operations, an *ad hoc*, provisional formation entails unacceptable risk. To mitigate this risk, it must be a table of organization and equipment formation requiring the procurement of additional platforms.

The Army can leverage the MPF to create light ACRs for I Corps, V Corps and XVIII Airborne Corps designed for use in the U.S. European Command and U.S. Info-Pacific Command area of operations or any operational environment that precludes the use of heavier armor. The Army can manage the personnel costs of activating an ACR-L by converting existing SBCTs. I Corps could gain an ACR-L by converting an SBCT from 7th Infantry Division; likewise, an SBCT from 4th Infantry Division could be relocated to Fort Stewart, GA, and converted to an ACR-L for XVIII Airborne Corps.

Finally, V Corps' European mission set necessitates the conversion of 2nd Stryker Cavalry Regiment to an ACR-L. Given its increased mobility, protection and firepower over existing light and medium vehicles, the MPF will provide I, V and XVIII Corps with a significantly more lethal capability that can be employed in an expeditionary manner to locations that considerably restrict the mobility of heavier forces.

DOTMLPF-P considerations

Although this article focuses primarily on the organization of potential future MPF units, there are other elements of doctrine, organization, training, materiel, leadership and education, personnel, facilities and policy (DOTMLPF-P) the authors consider relevant.

Doctrine. While the MPF is intended to primarily serve in an infantry-support role, expanding its use cases necessitates more supporting doctrine. Placing the MPF in a cavalry squadron or regiment means MPF crews and units must be proficient in independent armor operations, fighting for information and close-in support to ground troops. The inherent differences in maneuver, fire control, communication and more among these different missions should be codified in a single manual, providing a sole doctrinal source for both MPF units and the units they support. The blueprint for an all-encompassing MPF manual already exists in FM 17-18, *Light Armor Operations*.

In addition to updating the manual for multidomain operations, doctrine writers should add a purpose-built chapter on urban operations. The increasing likelihood that U.S. forces will conduct future operations in urban terrain means that MPF crews and units must be prepared to fight in cities. Maneuver leaders must dispel the notion that tanks do not belong in

cities. The role of armor in the urban fight nests with the MPF's mission to reduce fortified positions for the infantry; as demonstrated in Fallujah in 2004, a well-trained and well-resourced armor force can have outsized effects while minimizing casualties for the combined-arms team.¹²

A chapter on urban operations should address both the MPF and infantry forces. Topics should include formations of combined infantry-armor teams; the conduct of local security for the MPF; sectors of fire; surface-danger zones; communications; when and how infantry should ride on the MPF; and more. Although MPF units will undoubtedly cover these topics in their own standing operating procedures (SOPs), the doctrine should provide a baseline to ensure that units think about all aspects of infantry-armor operations in urban terrain.

Organization. Sustaining the MPF battalion, regardless of its organization, may prove to be the greatest difficulty for light divisions. The MPF battalion's forward-support company (FSC) will be robust enough to support each MPF company separately across the division's operational environment. The FSC's assets will likely be organized into separate teams that would detach from the battalion along with each MPF company during operations. These teams will contain the necessary transportation, maintenance and recovery assets to keep MPF companies fully-mission-capable during operations, and they will integrate with infantry brigade-support battalions to ensure seamless sustainment.

Leaders must also consider the strain that an MPF battalion places on the division-sustainment brigade and whether the current organization of the sustainment brigade can support the quantities of fuel and ammunition that the MPF will consume. Light divisions must anticipate the massive increase in demand or risk having the MPF battalion culminate early in an operation.

Training. Regardless of how divisions and corps implement MPF, collective training at home stations will take on a new level of importance. Those units who plan to work closely with MPF

must regularly conduct collective field and live-fire training with MPF so that all participants gain knowledge, respect and familiarity with each other, which will prevent accidents and increase effectiveness in combat. Although doctrine will provide a baseline, MPF and supported units should create a living SOP to continually improve interoperability. As a habitual element of Joint-force amphibious operations, MPF formations must also train with Marine Corps landing forces.

Wider employment of the MPF by converting SBCTs to ACR-Ls will surely cause a wider training issue. Converting an infantry-centric brigade to a decidedly more armor-centric regiment will put a burden on the Army to properly reallocate personnel.

The Army can alleviate this problem by creating an additional skill identifier for MPF crewmen in the interim, so that any maneuver Soldier can be certified on the platform while the U.S. Army Armor School works to generate the required number of MPF crewmen. By adding an MPF leader's course for officers and noncommissioned officers, mobile training teams can certify existing Soldiers on the platform without undergoing massive personnel movements.

Materiel. The light division's ability to perform MPF recovery operations is a major concern. Current wheeled recovery systems are incapable of lifting or towing a 38-ton tracked vehicle, leaving the M88A2 Hercules tracked recovery vehicle as the only option. As it stands, the M88A2 is overqualified for the job given its original purpose of recovering the M1 Abrams, which now stands at more than 70 tons.

Of course, the M88A2 must also be able to be recovered, necessitating at least two of the vehicles at any light division. An ideal solution would be to manufacture a light armored recovery vehicle on the MPF chassis, allowing better interoperability between recovery and MPF vehicles. However, since the vehicle would have to be manufactured in low numbers, this solution is extremely costly. If the Army were to employ the MPF in greater numbers across the force as this article

envisions, the cost of manufacturing this solution would correspondingly diminish.

A second materiel acquisition that would enhance the MPF platform is a mine plow and mine roller for conducting the combined-arms breach. This would greatly increase the speed and safety with which light engineers are able to reduce obstacles, and it would allow MPF units to conduct in-stride breaches of simpler obstacles. However, mine plow and roller transport requirements may prevent them from being brought forward on expeditionary deployments. Like the recovery vehicle, these systems would be costly to manufacture in relatively low numbers and would equally become more cost-efficient with greater employment of MPF across the force. Ultimately, the need (or lack thereof) for these materiel solutions will be realized during MPF training and employment, at which point these decisions can be re-evaluated.

Bridging assets for the MPF-equipped light division or ACRs are also worthy of consideration. The current Rapidly Emplaced Bridge System (REBS) can support tracked vehicles weighing up to 40 tons, and wheeled vehicles up to 50 tons. The current stated weight of the MPF at 38 tons means that a combat-loaded and equipped MPF could very easily exceed the REBS' 40-ton tracked vehicle capacity. Any supplements to the MPF, like more armor or an attached mine plow, would similarly create risk in bridging operations.

Adding more capacity to the REBS may soon be necessary to ensure proper gap-crossing ability for MPF units. In the meantime, MPF operators and maneuver planners should remain aware of this issue.

Leadership and education. The first MPF company is not expected to be fielded until mid-2025.¹³ However, leaders in every warfighting function must consider how MPF will be employed and how they will support or integrate the vehicle into their operations. The Army's professional military education should begin to integrate MPF into training prior to 2025 by updating decisive-action training environment scenarios to incorporate

MPF. At a minimum, these changes should occur in the maneuver basic officer leader courses, the Maneuver Captain's Career Course (MCCC) and the Command and General Staff College (CGSC).

Division and corps warfighter simulations should also include MPF to provide staffs with a heightened level of familiarity. The publication of MPF doctrine prior to 2025 will also give leaders the chance to conduct professional development with their subordinates, building capability and readiness before engaging in training.

Facilities. The ability of divisions and corps to build and train cohesive teams around the MPF will rely considerably on their available training facilities. If the best interoperability training occurs during collective field and live-fire training, MPF-equipped units require the necessary maneuver areas, live-fire ranges and maintenance facilities to do so. Since posts housing light divisions generally lack these facilities, leaders may have to accept compromises. If the cost of building suitable range complexes is too expensive, MPF units at locations like Fort Bragg, NC, Fort Campbell, KY, or Joint Base Lewis-McChord, WA, may be forced to conduct regular travel to a suitable nearby post for live-fire training – Fort Knox, KY, Fort Pickett, VA, and Fort Stewart, GA, come to readily to mind. In other locations, a lack of access or proximity to the appropriate facilities at their parent unit's location may cause MPF units to be permanently stationed away from their parent units entirely to achieve the necessary levels of readiness. Both scenarios make collective training with supported or task-organized units difficult. This situation provides an opportunity to regularly practice deployment readiness by traveling to another post, increasing units' preparedness for contingency operations.

Conclusion

In a significant milestone for maneuver forces and after nearly 30 years since the retirement of the M551 Sheridan, the Army will successfully field the MPF to light infantry divisions in 2025. The MPF will provide much-needed mobility, shock and firepower to light divisions; the inherent

versatility of the platform will undoubtedly cause MPF units to take on new missions. In anticipation of this growth, leaders must envision a variety of MPF organizations and missions. The possibility of employing the MPF as a tactical battalion provides the division commander with a separate battalion that can aggressively maneuver and fight across the battlefield, generating an overwhelming shock at the decisive point.

Similarly, the Army's corps can employ MPF as the centerpiece of a light armored cavalry regiment suitable for maneuver across the Indo-Pacific and the European continent, or in contingencies worldwide. The MPF may even prove useful in heavy cavalry formations, favoring mobility and agility vs. the heavier M1. As the ever-increasing weight of other armored platforms limits their mobility and expeditionary deployment, the MPF, limited only by fiscal and manpower constraints, is best suited to provide the Army's light forces with a versatile system capable of a variety of missions.

Retired LTC Lee Kichen served in command and staff positions in armor, armored-cavalry and mechanized-infantry units in the United States and overseas. He also served on the Army Staff and Training and Doctrine Command staff. LTC Kichen's military schooling includes Air War College (non-resident), CGSC, Armor Advanced Officer Course and Armor Officer Basic Course. He holds a bachelor's of arts degree in history from the University of Massachusetts at Amherst, a master's of social-sciences degree in sociology and political science from Pacific Lutheran University and a master's of arts degree in counseling psychology from Chapman College. His awards and honors include the Legion of Merit (one oak-leaf cluster) and Meritorious Service Medal (two oak-leaf clusters) and the Order of St. George-Silver Medallion.

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Fort Leavenworth; commander: Company A, 4th Battalion, 68th Armor Regiment (Airborne) (Provisional), 1st Brigade Combat Team (BCT), 82nd Airborne Division, Fort Bragg, NC; commander: Troop A, 3rd Squadron, 73rd Cavalry Regiment, 1st BCT, 82nd Airborne Division; scout platoon leader: Headquarters and Headquarters Company, 1st Squadron, 9th Cavalry Regiment, 2nd BCT, 1st Cavalry Division; Fort Hood, TX; and platoon leader: Troop B, 1/9 Cavalry, 4th BCT, 1st Cavalry Division; Fort Hood. MAJ Hatfield's military schools include CGSC, Advanced Airborne School (Jumpmaster), Ranger School, Airborne School, Cavalry Leader's Course, MCCC, Pathfinder School, Air-Assault School, Army Reconnaissance Course and the Armor Basic Officer Leader's Course. He has a bachelor's of science degree in computer science from the U.S. Military Academy, and a master's of science degree in administration from Central Michigan University.

MAJ Hatfield commanded the Army's MPF Company Excursion at Fort Bragg from 2018 to 2020. Company A, 4th Battalion, 68th Armor (Provisional), used 18 light armored vehicles borrowed from the U.S. Marine Corps to develop tactics, techniques and procedures for the future MPF vehicle. The company took part in many infantry battalion and brigade field-training exercises and successfully supported 1st BCT, 82nd Airborne Division, at JRTC.

Notes

¹ Army Public Affairs release, June 28, 2022.

² LTC Ben Ferguson and CPT Lennard Salcedo, "Mobile Protected Firepower: An Opportunity," *ARMOR*, Summer 2022 edition. The M8, canceled just before the start of production, was officially the Armored Gun System. However, FM 17-18, *Light Armor Operations* (written specifically for employment by light-armor battalions, companies and platoons), referred to it as a light tank.

³ Ferguson and Salcedo.

⁴ U.S. Army Armor School, *Thunderbolt Blast* (Armor School newsletter), December 2013-January 2014, Fort Benning, GA: U.S. Armor School, https://media-cdn.dvidshub.net/pubs/pdf_14894.pdf; retrieved July 30, 2022.

⁵ Congressional Research Service, "In Focus: The Army's Mobile Protect Firepower (MPF) System," updated May 18, 2022.

⁶ Eric Tegler, "Two Light Tank Prototypes Battle for the Future of Army Firepower," *Popular Mechanics*, March 7, 2021, <https://www.popularmechanics.com/military/weapons/a35634134/army-mpf-tank/>.

⁷ Christopher Stone, Army Capability Manager-IBCT briefing at the Maneuver Warfighter Conference, Feb. 16, 2022, Fort Benning, GA.

⁸ Anthony Daskevich II, *Insights Into Modularity: 753rd Tank Battalion In World War II*, Carlisle, PA: U.S. Army War College, March 15, 2018.

⁹ Headquarters Department of the Army, FM 17-18, *Light Armor Operations* (rescinded) May 8, 1994.

¹⁰ Michael R. Gordon, "Marines Plan to Retool to Meet China Threat," *Wall Street Journal*, March 22, 2020; quoted in Matthew W. Graham, "Tanks in the Surf: Maintaining the Joint Combined Arms Landing Team," land-warfare paper, Washington, DC: Association of the U.S. Army, July 2022.

¹¹ Headquarters DA, FM 3-94, *Theatre Army, Corps and Division*, July 21, 2021.

¹² Kendall D. Gott, *Breaking the Mold: Tanks in the Cities*, Fort Leavenworth, KS: Combat Studies Institute Press, 2006.

¹³ Stone briefing, Maneuver Warfighter Conference Feb. 16, 2020, Fort Benning.

ACRONYM QUICK-SCAN

ACR – armored-cavalry regiment
ACR-L – armored-cavalry regiment-light
AGS – Armored Gun System
ATGM – anti-tank guided missile
BCT – brigade combat team
CAB-L – combined-arms battalion-light
CGSC – Command and General Staff College
DOTMLPF-P – doctrine, organization, training, materiel, leadership and education, personnel, facilities and policy
FM – field manual
FSC – forward-support company
IBCT – infantry brigade combat team
JRTC – Joint Readiness Training Center
MBT – main battle tank
MCCC – Maneuver Captain's Career Course
MPF – mobile protected firepower
R&S – reconnaissance and security
REBS – Rapidly Emplaced Bridge System
SBCT – Stryker brigade combat team
SOP – standing operating procedure