

A Balanced Team: The Need for Options in Armored Warfare

by CPT Christopher M. Telle

"It's the best main battle tank in the world – if you can get it there," a 1st Infantry Division battalion commander in Kosovo once pointed out about the Abrams tank.¹

The role of the tank is to close with and destroy the enemy through maneuver, firepower and shock effect. Its main objective is not the enemy's strength but rather its weakness (see Point A). Armored formations are unique in their ability to project armored mobile firepower through or around an enemy's front lines and into its rear echelons.

This ability continues to be the tank's exclusive domain on the battlefield, but the U.S. Army's dominance of that domain is not a foregone conclusion. Maintaining the strength of our armored formation in the face of multi-domain operations, a spectrum of threats (terrorists, insurgents, near-peers) and on a complex battlefield (civilians, criminals, urban) requires innovation, agility and moving beyond a "one-size-fits-all" concept of the main battle tank (MBT). With that in mind, returning the medium tank to the Army's equipment roster is the key to filling a major capability gap and ensuring success on the future battlefield.

This article will highlight the need for that medium tank, especially when it comes to providing offensive firepower in areas that the Abrams, or its logistics tail, would have issues reaching. It defines a medium tank that can provide versatility to the force, highlights potential characteristics of the future battlefield, outlines concerns about the M1A2 Abrams on that battlefield and addresses a "medium tank" proposal that appeared in *ARMOR* last year. I will then describe what would conceptually make a medium tank, and how such a platform might be gainfully employed doctrinally and organizationally, and then conclude with recommendations on how to better assess the need and potential of a medium tank.

While current doctrine addresses the role of the tank platoon – "to close with and destroy the enemy" – it is less forthcoming with a definition of what makes a tank a tank.² Armor Branch frequently uses the term *mobile protected firepower*, but this definition falls short, as it can be applied to infantry fighting vehicles (IFVs) such as the Bradley Fighting Vehicle (BFV).

Though there may be some confusion in the eyes of the civilian press, the Bradley is not a tank. In a fight, especially between tanks, the side that engages first has a considerable advantage. That advantage quickly disappears if, like the Bradley, the vehicle that fires first lacks the ability to defeat the enemy's armor with a single shot.

While not authoritative, for the purpose of this article my proposed definition of a tank is "an armored, tracked, turreted combat platform that possesses a main gun capable of killing the enemy's best armored vehicles."

Future battlefield

The future battlefield is currently a hot topic in the professional community and so only a few highlights need to be addressed here. A future conflict may not feature a megacity; it will, however, certainly feature urban terrain. Proliferation of unmanned aerial systems (UASs) paired with indirect fires as in the Russian Reconnaissance Strike Complex will require significant tactical mobility – both to disperse as well as to concentrate for engagements.³ Enemies may fight as insurgents, hiding among the population; as conventional formations mirroring our own combined-arms tactics; or, most likely, some combination thereof.

The resulting battlefield will be open and sparsely populated with combat platforms compared to previous wars, not just to the lethality of fires paired with reconnaissance, but also simply due to the smaller size of the armies involved. As of 2020, the Russians no longer had seven divisions massed at the mouth of the Fulda Gap. North Atlantic Treaty Organization armies are a fraction of the size they once were. And the vast majority of U.S. combat power remains separated from potential conflicts by the two largest oceans in the world.

The M1 Abrams tank was developed to counter a specific threat (massed Warsaw Pact armor) in a specific environment (Central Europe) in a specific manner (well-prepared defensive operations in depth). It was the result of decades of development by the Army into the concept of an MBT. The MBT approach was based on the merger of heavy and medium tanks types following World War II. The output was a “universal” tank that balanced protection, maneuverability and firepower.

Over time, obsession with increased protection has greatly increased the weight and decreased the maneuverability of the Abrams. The M1A2C weighs more than 80 tons.⁴ While the German Leopard and Israeli Merkava approach the Abrams in mass, other potential-threat MBTs such as the Russian T-14 (55 tons), T-90 (50 tons) and Chinese Type 98 (55 tons) remain considerably lighter.⁵

The fact that the Abrams went on to be successfully employed in Operation Desert Storm and the Global War on Terrorism is more a testament to American crewmembers, leaders and, most importantly, logistics than it is to inherent all-round superiority in the design of the 70-ton, fuel-intensive, defense-oriented Abrams. While its armor, fire control, weapons and optics make it rightly to be feared, lighter, more maneuverable tanks led by capable opponents will likely gain positions of advantage by going where the Abrams is not or where it cannot go. This Abrams avoidance will be aided by UAS systems, Special Operations Forces operations in the American rear and long-range rocket and missile strikes on logistics hubs – all of which will reduce the flow of fuel that all vehicles, but especially the Abrams, rely on.⁶

This brings us to the need for a medium tank to complement (not replace) the Abrams. The recent article making the case for a medium tank in **ARMOR** does a good job highlighting some of the limitations of the Abrams but misses the mark when it comes to a true medium tank.⁷ The focus on a platform optimized for megacity warfare results in a poorly designed tank for any operations not occurring in an urban area.

For example, the requirements list for a future operating environment specifies a main gun with high-explosive ammunition – it specifically does not address the need to be able to defeat enemy armored vehicles in urban areas or elsewhere. Likewise, the requirement of 360-degree armor protection will leave the vehicle either too heavy to be properly mobile, or armored enough to resist individual-fired anti-tank weapons but not the main-gun rounds of an enemy tank.

The vehicle requirements outlined in MAJ Jeremy Zollin’s article⁷ (“The Case for a Medium Tank to Be Incorporated into the Joint Force,” **ARMOR**, Spring-Summer 2019) could best be met by an American equivalent of the Russian *Boyeva Mashina Pekhoty* “Terminator” (BMP-T), an armored, tracked, turreted, infantry-support vehicle with enough mobility, protection and firepower in a platform that lends itself to future remote control or automation (see Point B).

The vehicle requested in Zollin’s article is an IFV, not a medium tank. Filling the niche of medium tank with a vehicle optimized almost exclusively for urban combat would not do anything to address the limitations of the Abrams in the offense nor provide flexibility to future commanders on a multi-domain battlefield that will certainly extend beyond urban centers. Let’s call this urban-support vehicle “urban mobile protected firepower” (UMPH) (Point C). Labeling the urban-support vehicle as such allows the use of the term “medium tank” where it actually belongs.

Medium tank

A true medium tank would restore to the Army the ability to conduct offensive operations against a near-peer threat in a variety of terrain and with greater logistical freedom in the face of anti-access, area-denial threats and UAS. To fill this niche, the medium tank would need to meet requirements in weight, firepower, fuel consumption and mechanical resiliency.

- **Weight.** To fill the role of medium tank, the proposed platform would obviously require a reduction in weight from the heavy Abrams. Armor would comparatively be reduced, but an active-protection system (Point D), scalable armor additions like explosive-reactive armor and a decreased-size turret (done by implementing an autoloader) would all serve to mitigate the risk to the platform and crew. The weight saved would decrease fuel consumption and allow greater mobility. Further research should identify an upper weight limit based on bridge classifications in areas such as Eastern Europe or Southeast Asia.

- **Firepower.** The medium tank should possess a main gun capable of defeating enemy armored vehicles with a single shot, thereby ensuring it can conduct offensive operations against a full spectrum of threats. Based on current tank design, that gun needs to be at least 120mm. An anti-tank guided missile (ATGM) capability would further increase the lethality of the medium tank and provide a long-range capability to mitigate the lessened armor compared to an Abrams.
- **Fuel consumption.** For the medium tank to execute offensive operations in an open battlefield where supply lines are heavily restricted, it cannot operate with the fuel thirst of the Abrams tank. Employment of a diesel engine designed with efficiency in mind will ensure offensive tempo with a considerably reduced logistics tail. A consumption rate similar or less than that of the BFV should serve as an aim point.
- **Mechanical resiliency.** Key to this resiliency is an extreme emphasis on redundancy and reliability. We will ask much of these tanks and their crews, and cannot cripple ourselves before we get out of the gate with overcomplicated systems reliant on field-service representative support and digital troubleshooting. As an added benefit, the diesel engine would enable mechanic cross-training, compared to the turbine engine of the Abrams. Less maintenance burden means more time to train greater proficiency in crews and more combat power forward for longer.

Properly using medium tank

“The medium tank units are the primary striking force of an armored division. ... The heavy tank of the armored division will normally be the best antitank weapon when the division meets hostile armor, which the medium tanks cannot easily defeat,” according to Field Manual (FM) 17-33, *Tank Battalion*, 1949.⁸

While a medium tank can be valuable in all three brigade-combat-team types, the most potential for a medium tank is found in the Stryker brigade combat team (SBCT). In an armored brigade combat team (ABCT), the cavalry squadron or one or more combined-arms battalions (CABs) equipped with medium tanks could provide increased flexibility to the brigade commander. A medium tank and mechanized-infantry task force would be able to operate at longer ranges and with less of a logistics tail than our current CABs while still employing the offensive killing power of tanks. An infantry brigade combat team could benefit from an attached medium-tank battalion – much as infantry formations in World War II and Korea made great use of the independent tank battalions. These medium-tank formations would provide concentrated offensive options against a peer enemy, allowing the mobile protected firepower “light tank” platform to be dispersed in support of infantry companies and battalions.

However, the medium tank’s ability to enable an SBCT’s offensive maneuver may be its greatest contribution. The Stryker brigades, despite speed and large numbers of infantry dismounts, lack offensive firepower – especially in open or semi-open terrain.⁹ By incorporating medium-tank battalions on a one-for-one or one-for-two basis with Stryker-equipped infantry battalions, the formation would significantly increase its agility and combat power. Medium tanks would provide the firepower and armor needed to get the Strykers and their dismounts onto an objective. This increased combat power would not tax the Stryker logistics footprint the way a CAB or multiple companies of M1A2 tanks would, thus maintaining the mobility and speed of the SBCT.

Accepting trade-offs

“We know exactly what we want. We want a fast, highly mobile, fully armored, lightweight vehicle. It must be able to swim, cross any terrain and climb 30-degree hills. It must be air-transportable. It must have a simple but powerful engine, requiring little or no maintenance. The operating range should be several hundred miles. We would also like it to be invisible,” GEN Bruce C. Clarke once wrote.¹⁰

As GEN Clarke humorously highlighted, while we may want a true one-size-fits-all solution, the design and fielding of Army equipment is always a matter of trade-offs. In the case of the medium tank proposed here, the firepower of the Abrams is maintained while accepting some risk in protection. The potential offensive maneuver capability across multiple types of terrain this medium-weight tank brings to the Army should also be added to the scale of trade-offs we are willing to make.

Future tech can wait

This capability, as well as UMPF, does not have to wait for a radical breakthrough in technology.¹¹ We don’t need directed-energy weapons or quantum sensors to field such a necessary component of combined-arms success.

Using existing technology, pulling the lessons-learned from our allies on their design and employment of medium armored vehicles, emphasizing reliability and rapid prototyping, we could have units testing the next medium tank at our combat-training centers in relatively short order.

Even before a prototype, opportunities to test medium tanks in action as part of Army formations exist. Japanese tank battalions equipped with the Type 90 Tank (55 tons) are already integrated into National Training Center rotations, while in Europe the Polish PT-91 (50 tons) or T-80s and T-90s provide examples to integrate and research at the Joint Multinational Readiness Center and elsewhere.¹²

While the Abrams will remain a clear symbol of U.S. commitment and continue to excel as a heavyweight on the battlefield, it needs a medium counterpart to restore the offensive capability essential to the combat arm of decision. By restoring this capability, we will enable American armor to exploit the openness of the battlefield to close with and destroy the enemy where they are weakest – in their rear area.

“We have yet to find a situation in which armor, to some degree, could not be profitably employed. The tank has repeatedly exploited the situation in spite of the terrain,” summarized COL Thomas D. Gillis, commander, 24th Infantry Regiment (Korean War).¹³

Point A. While a tank should be able to defeat other tanks, its ideal prey is enemy command-and-control nodes, logistics and support elements.

Point B. Unlike the official mobile protective firepower program, the BMP-T possesses the ATGMs needed to defeat modern armor, something a 105mm gun would struggle with.

Point C. UMPF. Pronounced “oomph” as in “We’re pinned down! We need some more oomph over here!”

Point D. An active-protective system built into the design from the beginning, not a heavy and bulky attachment to a legacy system.

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Notes

¹ Quoted in Mike Sparks, “Heavy tanks, helicopter fighter-bombers: an Army in search for battlefield doctrine?” *Combat Reform*, January 2001, www.combatreform.org/heavytankshelicopters.htm.

² Army Techniques Publication 3-20.15, *Tank Platoon*, July 2019, https://armypubs.army.mil/epubs/DR_pubs/DR_a/pdf/web/ARN18128_ATP%203-20.15%20FINAL%20Web.pdf.

³ Lester W. Grau and Charles K. Bartles, “The Russian Reconnaissance Fire Complex Comes of Age,” Foreign Military Studies Office, September 2018, <https://community.afmso.org/wg/tradoc-g2/fmso/m/fmso-monographs/242709>.

⁴ “M1A2C [ex M1A2 SEPv3],” *Global Security*, October 2018, <https://www.globalsecurity.org/military/systems/ground/m1a2c.htm>.

⁵ *Worldwide Equipment Guide*, accessed May 19, 2020, <https://odin.tradoc.army.mil/WEG>.

⁶ MAJ Travis Michelena, “The Fallacy of Logistics Dominance,” *ARMOR*, Spring-Summer 2019, <https://www.benning.army.mil/armor/eARMOR/content/issues/2019/Spring-Summer/2-3Michelena19.pdf>.

⁷ MAJ Jeremy Zollin, “The Case for a Medium Tank to Be Incorporated into the Joint Force,” *ARMOR*, Spring-Summer 2019, <https://www.benning.army.mil/armor/eARMOR/content/issues/2019/Spring-Summer/2-3Zollin19.pdf>.

⁸ Department of the Army, FM 17-33, *Tank Battalion*, September 1949, <https://archive.org/details/FM17-331951>.

⁹ Les Grau, “The Bear Facts: Russians Appraise the Stryker Brigade Concept,” *Infantry*, November-December 2004, <https://apps.dtic.mil/dtic/tr/fulltext/u2/a593528.pdf>.

¹⁰ GEN Bruce C. Clarke, “Future Tank Requirement,” *ARMOR*, September-October 1960.

¹¹ Scott R. Gourley, "Life After Abrams: If It Doesn't Look or Act Like a Tank, It Still May Be the Tank of the Future," Association of the U.S. Army, May 29, 2019, <https://www.ausa.org/articles/life-after-abrams-if-it-doesn%E2%80%99t-look-or-act-tank-it-still-may-be-tank-future>.

¹² Christopher Foss, *Jane's Tank Recognition Guide*, Hong Kong: HarperCollins Publishing, 2006.

¹³ *Strike Swiftly Korea 1950-1953: 70th Heavy Tank Battalion*, Nashville, TN: Turner Publishing, 1988.

Acronym Quick-Scan

ABCT – armored brigade combat team

ATGM – anti-tank guided missile

BFV – Bradley Fighting Vehicle

BMP-T – *Boyeva Mashina Pekhoty* "Terminator" (Russian tank-support fighting vehicle)

CAB – combined-arms battalion

FM – field manual

IFV – infantry fighting vehicle

MBT – main battle tank

RoK – Republic of Korea

SBCT – Stryker brigade combat team

UAS – unmanned aerial system

UMPH – urban mobile protected firepower