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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2021 Army **Date:** February 2020

<b>Appropriation/Budget Activity</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army / BA 5: System Development &amp; Demonstration (SDD)</i>	<b>R-1 Program Element (Number/Name)</b> PE 0605028A / <i>Armored Multi-Purpose Vehicle (AMPV)</i>
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COST (\$ in Millions)	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	Cost To Complete	Total Cost
Total Program Element	-	107.521	83.830	96.594	-	96.594	0.000	0.000	0.000	0.000	0.000	287.945
EB5: <i>Armored Multi-Purpose Vehicle</i>	-	107.521	83.830	96.594	-	96.594	0.000	0.000	0.000	0.000	0.000	287.945

**A. Mission Description and Budget Item Justification**

The Armored Multi-Purpose Vehicle (AMPV) is the materiel solution for replacement of the Army's Armored Personnel Carrier (M113) Family of Vehicles (FoV) within the Armored Brigade Combat Team (ABCT). It will mitigate current and future capability gaps in force protection, mobility, reliability, and interoperability across the Spectrum of Conflict. The AMPV will replace five mission roles currently performed by the M113 FoV by transferring the current M113 Mission Equipment Packages (MEP) to a new Military Vehicle Derivative (MVD) platform. In total, the AMPV FoV will account for approximately 30% of the ABCT's tracked fleet and consists of the following five variants:

1. Mission Command (MCmd) Vehicle: This platform enables effective mission command planning and execution for both the Tactical Operations Center (TOC) and Tactical Command (TAC) Vehicle versions of the MCmd. It will host current Battle Command Systems, future replacements, and upgrades of hardware and software.
2. Medical Treatment (MT) Vehicle: This platform will provide a protected surgical environment, with adequate lighting and accessible medical equipment. It will provide a capability for immediate medical care for one patient by a medical crew of four.
3. Medical Evacuation (ME) Vehicle: This platform will conduct ambulance type activities and provide casualty evacuation for up to four litters or six ambulatory patients, with a crew of three medical attendants.
4. General Purpose (GP) Vehicle: This platform will operate throughout the battle space by conducting re-supply, maintenance, casualty evacuation, and other tasks within the formation.
5. Mortar Carrier (MC) Vehicle: This platform will provide immediate responsive fire support to conduct fast-paced offensive operations.

The AMPV program was initiated with a Capability Development Document (CDD) that was approved on 21 June 2013 and subsequently revised on 24 October 2016. The CDD reflects a set of stable, technologically achievable requirements. A Milestone B (MS B) Defense Acquisition Board (DAB) was held on 9 December 2014 and it was followed by an Acquisition Decision Memorandum (ADM) that was signed on 22 December 2014. The ADM approved MS B for the AMPV program and entry into the Engineering and Manufacturing Development (EMD) phase. In addition, the ADM authorized the Army to proceed with award of the EMD prime contract, which occurred on 23 December 2014 to BAE Systems Land & Armaments, L.P. (BAE). A subsequent ADM was issued on 26 September 2017 and it approved: a revised acquisition documentation tailoring plan, revised Milestone C entrance criteria, and an increase in the Low Rate Initial Production (LRIP) quantity to 551 vehicles (to recognize the Army's desire for early fielding of AMPVs for the European Deterrence Initiative). An ADM was then issued on 1 November 2017 and it delegated Milestone Decision Authority to the Secretary of the Army and re-designated AMPV as an Acquisition Category (ACAT) IC program. An Army Systems Acquisition Review Council (ASARC) was held on December 20, 2018 with the Army Acquisition Executive (AAE) and the Vice Chief of Staff Army (VCSA) approving the program to enter LRIP. The program received its LRIP ADM on January 25, 2019.

The Fiscal Year (FY) 2021 planned program primarily consists of efforts associated with Production Qualification Testing (PQT), Initial Operational Test & Evaluation (IOT&E), and the Production and Deployment phase Live Fire Test and Evaluation (LFT&E). Prime contractor support will be required for testing and engineering to

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ensure adequate system support packages will be available during the tests. Government test locations will be used for the tests and government personnel will be responsible for the overall management of the efforts. This program supports the Next Generation Combat Vehicle (NGCV) Cross Functional Team (CFT).

<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021 Base</b>	<b>FY 2021 OCO</b>	<b>FY 2021 Total</b>
Previous President's Budget	111.821	96.730	96.687	-	96.687
Current President's Budget	107.521	83.830	96.594	-	96.594
Total Adjustments	-4.300	-12.900	-0.093	-	-0.093
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-12.900			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-4.300	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	-0.093	-	-0.093

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<b>Appropriation/Budget Activity</b> 2040 / 5					<b>R-1 Program Element (Number/Name)</b> PE 0605028A / <i>Armored Multi-Purpose Vehicle (AMPV)</i>				<b>Project (Number/Name)</b> EB5 / <i>Armored Multi-Purpose Vehicle</i>			
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021 Base</b>	<b>FY 2021 OCO</b>	<b>FY 2021 Total</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
EB5: <i>Armored Multi-Purpose Vehicle</i>	-	107.521	83.830	96.594	-	96.594	0.000	0.000	0.000	0.000	0.000	287.945
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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The AMPV program was initiated with a Capability Development Document (CDD) that was approved on 21 June 2013 and subsequently revised on 24 October 2016. The CDD reflects a set of stable, technologically achievable requirements. A Milestone B (MS B) Defense Acquisition Board (DAB) was held on 9 December 2014 and it was followed by an Acquisition Decision Memorandum (ADM) that was signed on 22 December 2014. The ADM approved MS B for the AMPV program and entry into the Engineering and Manufacturing Development (EMD) phase. In addition, the ADM authorized the Army to proceed with award of the EMD prime contract, which occurred on 23 December 2014 to BAE Systems Land & Armaments, L.P. (BAE). A subsequent ADM was issued on 26 September 2017 and it approved: a revised acquisition documentation tailoring plan, revised Milestone C entrance criteria, and an increase in the Low Rate Initial Production (LRIP) quantity to 551 vehicles (to recognize the Army's desire for early fielding of AMPVs for the European Deterrence Initiative). An ADM was then issued on 1 November 2017 and it delegated Milestone Decision Authority to the Secretary of the Army and re-designated AMPV as an Acquisition Category (ACAT) IC program. An Army Systems Acquisition Review Council (ASARC) was held on December 20, 2018 with the Army Acquisition Executive (AAE) and the Vice Chief of Staff Army (VCSA) approving the program to enter LRIP. The program received its LRIP ADM on January 25, 2019.

The Fiscal Year (FY) 2021 planned program primarily consists of efforts associated with Production Qualification Testing (PQT), Initial Operational Test & Evaluation (IOT&E), and the Production and Deployment phase Live Fire Test and Evaluation (LFT&E). Prime contractor support will be required for testing and engineering to

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ensure adequate system support packages will be available during the tests. Government test locations will be used for the tests and government personnel will be responsible for the overall management of the efforts. This program supports the Next Generation Combat Vehicle (NGCV) Cross Functional Team (CFT).				
<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021</b>
<p><b>Title:</b> Armored Multi-Purpose Vehicle (AMPV) Product Development</p> <p><b>Description:</b> AMPV Product Development costs include all efforts provided under the AMPV Engineering and Manufacturing Development (EMD) prime contract along with Government Furnished Material (GFM). Significant examples of prime contract effort include: development engineering, system engineering/program management, prototype hardware procurement, prototype system level fabrication and integration, software development, support to the government test program, and oversight of subcontractors/suppliers. Also included are all efforts performed by subcontractors / suppliers who are under contract to the AMPV EMD prime contractor. This element also includes the recurring manufacturing cost to procure the vehicles that will support Full-Up System Level (FUSL) live fire testing.</p> <p><b>FY 2020 Plans:</b> Prime contractor activities in FY 2020 consisted of efforts that supported the execution of risk reduction validation testing at Aberdeen Test Center (ATC) using EMD vehicles that have been modified with design upgrade packages intended for production. This support included provision and replenishment of spare and repair parts, special tools, test measurement, diagnostic equipment (TMDE), and technical publications. Support also included on-site Field Service Representatives (FSR) to assist in vehicle repair activities during testing, Engineering Subject Matter Experts (SME) to troubleshoot any issues that may arise during testing, and the development of corrective actions in response to Test Incident Reports (TIRs). This risk reduction validation testing was ran with two vehicles conducting selected performance tests. Each vehicle performed 1,500 miles of reliability testing. This also included Live Fire under-body ballistic survivability testing conducted on four vehicles for a total of eight events. Besides ensuring that the vehicles was adequately supported before and during testing, the contractor continued work related to Logistics/Product Support to ensure the AMPV can be organically maintained. Logistics Technical Manual validation/development effort, Provisioning effort, and incorporation of engineering changes from the Limited User Test efforts will continue under the EMD contract. In addition, the contractor was responsible for maintaining the Product Support Package (PSP) that contains the integrated product support elements and any sustainment process contracts or agreements used to attain and sustain the maintenance and support concepts needed for materiel readiness.</p> <p><b>FY 2021 Plans:</b> Prime contractor activities in FY 2021 consist of efforts that support PQT, the Production and Deployment phase LFT&amp;E, and IOT&amp;E, and potential design efforts to address changes stemming from the tests and/or to satisfy other emerging Army requirements. PQT is scheduled to begin 4QFY2020 and is planned to conclude 3QFY2022. During the PQT, the contractor will provide test/engineering support and field service representatives at the ATC, the Yuma Test Center (YTC), and at White Sands Missile Range (WSMR) as well as Electronic Proving Ground (EPG), Cold Regions Test Center (CRTC), Tropic Regions Test Center (TRTC), and Dugway Proving Grounds (DPG). In addition, the contractor will conduct Operator New Equipment Training</p>		91.060	47.934	48.916

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<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021</b>
<p>(OPNET) and Field Level Maintenance New Equipment Training (FLMNET) prior to the start of PQT. This includes all necessary equipment and materials to conduct the training. Finally, as required, the contractor will maintain and replenish the System Support Packages (SSPs) needed to complete testing. The LFT&amp;E effort is intended to satisfy the requirements of 10 U.S.C. 2366 (Major systems and munitions programs: survivability testing and lethality testing required before full-scale production). Two of each variant will be subject to the LFT&amp;E. The costs included in this element are the support costs provided by the AMPV prime contractor. As is the case for the PQT, the contractor will provide support personnel at the primary test location (ATC). The goal is to return each vehicle to a near operational condition after each live fire shot. The contractor must ensure that system support packages include adequate spare and repair parts. As required, the contractor will support government personnel in repairing each vehicle prior to the subsequent shot. Costs in this element also include contractor program management efforts necessary to oversee the above described activities. The contractor will support these tests by providing Field Service Representatives (FSRs) to assist in repairing and maintaining vehicles and by providing SMEs to troubleshoot any issues that might arise during testing. For the IOT&amp;E, the contractor will inspect and repair 12 of the PQT vehicles for use in the IOT&amp;E. Each of these vehicles will be brought to Full Mission Capable status. The contractor will also de-process 24 new LRIP vehicles upon arrival at the test site (projected to be Ft. Stewart, GA). In support of the IOT&amp;E the contractor will provide Instructor and Key Personnel Training (I&amp;KPT), OPNET, and FLMNET. As required, the contractor will analyze the results of the testing program and incorporate any necessary design changes into LRIP vehicles. Based on all engineering design work, the contractor will also complete and deliver a Technical Data Package (TDP). Besides ensuring that the vehicles are adequately supported before and during testing, the contractor will continue work related to Logistics/Product Support to ensure the AMPV can be organically maintained. In addition, the contractor is responsible for maintaining the Product Support Package (PSP) that contains the integrated product support elements and any sustainment process contracts or agreements used to attain and sustain the maintenance and support concepts needed for materiel readiness. The PSP includes spare/repair parts, Test Measurement and Diagnostic Equipment (TMDE), unique software, common and special tools, training packages, and TMs. The system design and product support product deliverables will be at a high level of maturity to support the IOT and validate the accuracy and utility of the comprehensive logistics PSP.</p> <p><b>FY 2020 to FY 2021 Increase/Decrease Statement:</b> Decrease is due to the program's transition into the LRIP phase.</p>			
<p><b>Title:</b> AMPV Government Program Management Costs</p> <p><b>Description:</b> AMPV Government Program Management costs include efforts to provide Government oversight of the AMPV program. This includes Systems Engineering and Program Management. Government and support Contractor salaries are included, as well as travel and other support costs that are required to effectively manage the program. Costs in this category do not include Government Furnished Material or efforts that are specific and unique to end item testing that is performed at Government test locations.</p>	7.483	3.050	3.657

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<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021</b>
<p><b><i>FY 2020 Plans:</i></b>                      Provided integrated program management for all development activities, to include providing oversight to BAE. The primary area of emphasis for the Research Development Technology &amp; Evaluation (RDT&amp;E) funded Government Project Management team in FY 2020 is to provide oversight to those Low Rate Initial Production (LRIP) activities that were traceable to Production Qualification Testing or Live Fire Test and Evaluation. All other Government Program Management efforts in support of LRIP were covered by Procurement funding. Also, as required, the AMPV Government Project Management team supported Army assessment efforts that relate to the AMPV design possibly being used to satisfy other emerging Army requirements.</p> <p><b><i>FY 2021 Plans:</i></b>                      Provide integrated program management for all development activities, to include providing oversight to BAE. The primary area of emphasis for the RDT&amp;E funded Government Project Management team in FY 2021 is to provide oversight to those LRIP activities that are traceable to PQT, Live Fire Test and Evaluation, and IOT&amp;E. All other Government Program Management efforts in support of LRIP will be covered by Procurement funding. As required, the AMPV Government Project Management team will support Army assessment and experimentation efforts relating to emerging Army requirements impacting the AMPV design.</p> <p><b><i>FY 2020 to FY 2021 Increase/Decrease Statement:</i></b>                      Slight increase is due to the program office support to RDTE LRIP testing activities</p>			
<p><b><i>Title:</i></b> Government Test Costs</p> <p><b><i>Description:</i></b> Government Test costs are for efforts required to perform and validate system-related tests. This element includes costs of the detailed planning, conduct, support, data reduction, and reports from such testing. Also included are costs necessary to acquire data during the conduct of the Government tests. The actual test articles (i.e., functionally configured systems) are excluded from this element. Also excluded are prime contractor costs incurred in support of the Government system level test.</p> <p><b><i>FY 2020 Plans:</i></b>                      Government test costs in FY 2020 were primarily related to the planning and execution of risk reduction validation testing at ATC using EMD vehicles which have been modified with design upgrade packages intended for production, mortar ammunition qualification testing, and the detailed planning of PQT Production and Deployment phase LFT&amp;E, and IOT to be conducted in FY 2021. The risk reduction validation testing included performance and reliability testing, and ballistic Live Fire testing at ATC. The performance and reliability testing were scheduled to begin in the 1Q FY 2020 and continue until early 3Q FY 2020. These tests were conducted on two vehicles. The Live Fire testing was scheduled to begin in the 2Q FY 2020 and conclude 4Q FY 2020 or 1Q FY 2021. This was conducted on four vehicles. The performance and reliability testing included a total of 3,000 miles and selected performance sub-tests. The Live Fire tests included a total of eight under-body blast events. The mortar ammunition qualification test is an off-vehicle test designed to validate that the AMPV Mortar Carrier variant can safely transport mortar ammunition. This testing was conducted in 2Q FY 2020 at YTC. Government costs included all costs incurred at ATC and costs associated</p>	8.808	29.039	44.021

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**B. Accomplishments/Planned Programs (\$ in Millions)**

	FY 2019	FY 2020	FY 2021
<p>with Government personnel that were collecting/analyzing test data, as well as work associated with providing oversight of the test activities. Finally, as required, vehicle design updates incorporated as corrective actions may be proven out on modified prototype vehicles at select Government test locations. All Government costs incurred as a result of these tests were included in this element.</p> <p><b>FY 2021 Plans:</b> Government Test costs in FY 2021 reflect LRIP testing activities, test data evaluation, and final reporting for PQT, LFT&amp;E and IOT&amp;E. The following test activities are scheduled in FY 2021 per the Test and Evaluation Master Plan (TEMP) approved at Milestone C: PQT (Performance and RAM), Full-Up System Level (FUSL), LFT&amp;E, and IOT&amp;E. PQT is scheduled to begin 4QFY2020 and complete in 4QFY2021, with the exception of natural environmental testing that will continue into 3QFY2022. LFT&amp;E will begin in 1QFY2021 and end in 4QFY2021. Currently, a total of 25 vehicles will undergo PQT. As part of PQT, and in support of RAM assessments, six vehicles will run a total of 14,000 miles. The miles will be equally split between the ATC and the YTC. An additional 19 vehicles will undergo performance testing as part of PQT. This testing will be performed at ATC, YTC, WSMR, EPG, CRTC, TRTC, and DPG. PQT is conducted with production-representative vehicles from LRIP. The objectives include verification that the production-representative systems meet performance requirements, generation of data to support the system evaluation in support of the FRP decision, and determination of system readiness to enter IOT. Government costs include all costs incurred at the test sites and costs associated with Government personnel that will be collecting/analyzing test data, as well as personnel associated with providing oversight of the activities. The LFT&amp;E will yield information to complement earlier vulnerability tests and modeling and analysis efforts. It will also be used to fill data voids from prior testing and will validate ballistic and blast performance at the system level to completely evaluate vehicle, crew, and occupant survivability. Ten vehicles will undergo testing at ATC. There are three elements to the testing: CDE, FUSL testing. CDE will be conducted on selected subsystems integrated into the AMPV to determine the consequences of various types of damage. This information will be used to confirm the impact of subsystem damage on platform functionality. Fire Survivability Testing will generate the data required to evaluate the effectiveness of the AFES. Its purpose is to protect crews and internal, stowed equipment from fires expected to be initiated by ballistic impacts. FUSL testing will demonstrate the ballistic resiliency and crew survivability of fully functional, production-representative, combat-loaded AMPV variants and investigate the synergistic effects of various damage mechanisms and failure modes. 30 AMPV LRIP vehicles will participate in the IOT&amp;E, with an additional 6 AMPV LRIP vehicles located at the test location to serve as back-up vehicles. The IOT&amp;E events will be conducted under realistic operational conditions using Army units executing decisive action operations IAW U.S. Army doctrine against a representative OPFOR. The test events are designed to produce data to satisfy the evaluation requirements in order to assess the operational effectiveness and suitability of the system under test. The AMPV IOT&amp;E is scheduled to be conducted 4QFY2021-1QFY2022. The location of the IOT will be determined by the Army TSARC based on availability of units and maneuver area (At this time the location is assumed to be Ft. Stewart, GA). PM AMPV will plan and coordinate any follow-on developmental and/or operational testing that will be required due to configuration changes during production, or verification that any post production deficiencies in materiel, training, or concepts</p>			

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<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021</b>
have been satisfactorily corrected. PM AMPV will support Instructor and Key Personnel Training (I&KPT), OPNET, and FLMNET. PM AMPV will provide a NMIB to the IOT unit prior to OPNET, and finalize with the unit the target audience for New Equipment Training.			
<b>FY 2020 to FY 2021 Increase/Decrease Statement:</b> Increase is due to efforts associated with PQT, LFT&E, and IOT&E test efforts planned for FY21.			
<b>Title:</b> FY 2018 NDAA SEC 825 MDAP Cost Overrun <b>Description:</b> FY 2018 NDAA SEC 825 MDAP Cost Overrun	0.170	-	-
<b>Title:</b> FY 2020 SBIR/STTR Transfer <b>Description:</b> Funding transferred in accordance with Title 15 USC 638 <b>FY 2020 Plans:</b> Funding transferred in accordance with Title 15 USC 638 <b>FY 2020 to FY 2021 Increase/Decrease Statement:</b> Funding transferred in accordance with Title 15 USC 638	-	3.807	-
<b>Accomplishments/Planned Programs Subtotals</b>	107.521	83.830	96.594

<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<b>Line Item</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021 Base</b>	<b>FY 2021 OCO</b>	<b>FY 2021 Total</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• G80819: <i>Armored Multi Purpose Vehicle (AMPV)</i>	672.742	444.797	348.971	-	348.971	682.064	820.354	893.595	860.343	9,283.242	14,006.108

**Remarks**

**D. Acquisition Strategy**  
The AMPV program entered the acquisition process at Milestone B. This was accomplished via an Acquisition Decision Memorandum (ADM) that was signed on 22 December 2014. The ADM also authorized the Army to proceed with award of the EMD prime contract with three LRIP options. The contract was awarded on 23 December 2014 to BAE Systems Land & Armaments, L.P. (BAE). The award was on a competitive basis utilizing formal Source Selection Evaluation Board (SSEB). An ASARC took place on December 20, 2018 with the AAE and the VCSA. The meeting resulted in the approval of the AMPV to enter MS C and LRIP on 25 January 2019.

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2021 Army** **Date:** February 2020

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<b>Management Services (\$ in Millions)</b>				FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
FY 2020 SBIR/STTR Transfer	TBD	Various : Various	-	-		3.807		-		-		-	0.000	3.807	-
<b>Subtotal</b>			-	-		3.807		-		-		-	0.000	3.807	N/A

<b>Product Development (\$ in Millions)</b>				FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Contractor Development Engineering	C/CPIF	BAE : Sterling Heights, MI	188.165	30.467	Dec 2018	18.442	Dec 2019	2.953	Dec 2020	-		2.953	0.000	240.027	-
Prototype Material Contractor	C/CPIF	BAE : Sterling Heights, MI	119.298	-		-		-		-		-	0.000	119.298	-
Prototype Material Government Furnished	Various	Various : .	26.329	1.344	Dec 2018	-		-		-		-	0.000	27.673	-
Contractor System Engineering, Data, Test and Program Management	C/CPIF	BAE : Sterling Heights, MI	123.192	10.944	Dec 2018	21.492	Dec 2019	13.887	Dec 2020	-		13.887	0.000	169.515	-
Procurement of Live Fire Test Assets	Option/ FPIF	BAE : York, PA	45.000	5.108		2.497		-		-		-	0.000	52.605	-
Contractor Support to Qualification, Live Fire, & Operational Testing	C/CPIF	BAE : Sterling Heights, MI	-	43.197	Dec 2018	5.503	Dec 2019	32.076	Dec 2020	-		32.076	0.000	80.776	-
<b>Subtotal</b>			501.984	91.060		47.934		48.916		-		48.916	0.000	689.894	N/A

**Remarks**  
Armored Multi Purpose Vehicle Tech data and system level product development costs.

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2021 Army** **Date:** February 2020

<b>Appropriation/Budget Activity</b> 2040 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0605028A / Armored Multi-Purpose Vehicle (AMPV)	<b>Project (Number/Name)</b> EB5 / Armored Multi-Purpose Vehicle
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<b>Support (\$ in Millions)</b>				FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Program Management Support	MIPR	PMO : Warren, MI	107.561	7.483	Dec 2018	3.050	Dec 2019	3.657	Dec 2020	-		3.657	0.000	121.751	-
FY 2018 NDAA SEC 825 MDAP Cost Overrun	Allot	OASA(FM&C) : Washington, D.C.	-	0.170		-		-		-		-	0.000	0.170	-
<b>Subtotal</b>			107.561	7.653		3.050		3.657		-		3.657	0.000	121.921	N/A

**Remarks**  
 Armored Multi Purpose Vehicle Support Costs.  
 FY 2018 NDAA SEC 825 MDAP Cost Overrun

<b>Test and Evaluation (\$ in Millions)</b>				FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Government System Testing	MIPR	Various : .	80.924	8.808	Dec 2018	29.039	Dec 2019	44.021	Dec 2020	-		44.021	0.000	162.792	-
<b>Subtotal</b>			80.924	8.808		29.039		44.021		-		44.021	0.000	162.792	N/A

	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	Cost To Complete	Total Cost	Target Value of Contract
<b>Project Cost Totals</b>	690.469	107.521	83.830	96.594	-	96.594	0.000	978.414	N/A

**Remarks**

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<b>Exhibit R-4, RDT&amp;E Schedule Profile: PB 2021 Army</b>		<b>Date:</b> February 2020
<b>Appropriation/Budget Activity</b> 2040 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0605028A / <i>Armored Multi-Purpose Vehicle (AMPV)</i>	<b>Project (Number/Name)</b> EB5 / <i>Armored Multi-Purpose Vehicle</i>

Event Name	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
EMD Contract		[Blue Bar]																										
Limited User Test	[Blue Bar]																											
Milestone C		▲ 1																										
Low Rate Initial Production 1			▲ 2																									
Production Qualification Testing									[Blue Bar]																			
Live Fire Test										[Blue Bar]																		
Initial Operational Test & Evaluation																												
First Unit Equipped																												
Full Rate Production Decision																												
Initial Operational Capability																												

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2021 Army		<b>Date:</b> February 2020
<b>Appropriation/Budget Activity</b> 2040 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0605028A / <i>Armored Multi-Purpose Vehicle (AMPV)</i>	<b>Project (Number/Name)</b> EB5 / <i>Armored Multi-Purpose Vehicle</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Milestone B Decision	1	2015	1	2015
EMD Contract	1	2015	4	2021
Preliminary Design Review	3	2015	3	2015
Critical Design Review	3	2016	3	2016
Production Prove Out Test	4	2017	4	2018
Limited User Test	4	2018	1	2019
Milestone C	2	2019	2	2019
Low Rate Initial Production 1	2	2019	2	2019
Production Qualification Testing	4	2020	3	2022
Live Fire Test	1	2021	4	2021
Initial Operational Test & Evaluation	4	2021	1	2022
First Unit Equipped	2	2022	2	2022
Full Rate Production Decision	3	2022	3	2022
Initial Operational Capability	3	2022	3	2022