

**UNCLASSIFIED**

**Exhibit R-2, RDT&E Budget Item Justification:** PB 2023 Army **Date:** April 2022

<b>Appropriation/Budget Activity</b> 2040: Research, Development, Test & Evaluation, Army / BA 5: System Development & Demonstration (SDD)	<b>R-1 Program Element (Number/Name)</b> PE 0604645A / Armored Systems Modernization (ASM) - Eng Dev
---	---

COST (\$ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
Total Program Element	-	123.992	122.778	71.287	-	71.287	85.591	57.214	0.000	0.000	0.000	460.862
EV8: Mobile Protected Firepower	-	123.992	122.778	71.287	-	71.287	85.591	57.214	-	-	0.000	460.862

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

Infantry Brigades lack the mobile, protected firepower capability necessary to defeat enemy prepared positions, destroy enemy armored vehicles, close with the enemy through fire and maneuver, and ensure freedom of maneuver and action in close contact with the enemy. Mobile Protected Firepower (MPF) will provide the protected, long range, precision direct-fire capability to ensure freedom of movement during offensive operations and defeat attacking enemy during defensive operations.

The Armored Systems Modernization - Engineering Development program element is directly aligned with the Next Generation Combat Vehicle (NGCV) Army Modernization Priority.

<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023 Base</b>	<b>FY 2023 OCO</b>	<b>FY 2023 Total</b>
Previous President's Budget	123.992	137.256	0.000	-	0.000
Current President's Budget	123.992	122.778	71.287	-	71.287
Total Adjustments	0.000	-14.478	71.287	-	71.287
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-14.478			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	71.287	-	71.287

**Change Summary Explanation**

FY 2023 funding increase reflects the fact that the FY 2022 President's Budget request did not include out-year funding.

**UNCLASSIFIED**

**Exhibit R-2A, RDT&E Project Justification:** PB 2023 Army **Date:** April 2022

<b>Appropriation/Budget Activity</b> 2040 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604645A / <i>Armored Systems Modernization (ASM) - Eng Dev</i>	<b>Project (Number/Name)</b> EV8 / <i>Mobile Protected Firepower</i>
--	--	---

COST (\$ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
<i>EV8: Mobile Protected Firepower</i>	-	123.992	122.778	71.287	-	71.287	85.591	57.214	-	-	0.000	460.862
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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

Infantry Brigades lack the mobile, protected firepower capability necessary to defeat enemy prepared positions, destroy enemy armored vehicles, close with the enemy through fire and maneuver, and ensure freedom of maneuver and action in close contact with the enemy. Mobile Protected Firepower (MPF) will provide the protected, long range, precision direct-fire capability to ensure freedom of movement during offensive operations and defeat attacking enemy during defensive operations.

This program is directly aligned with the Next Generation Combat Vehicle (NGCV) Army Modernization Priority.

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

	FY 2021	FY 2022	FY 2023
<p><b>Title:</b> Product Development</p> <p><b>Description:</b> MPF Middle Tier Acquisition (MTA) Rapid Prototyping, to include integration engineering, prototype builds, technical support to government test, and logistics products development efforts contracted to BAE Systems and General Dynamics Land Systems (GDLS).</p> <p><b>FY 2022 Plans:</b> Completion of MTA Rapid Prototyping efforts, to include TM and TSP validation and updates, spare parts provisioning, RPSTL updates, and execution of the MPF Supportability Assessment. FY 2022 product development actions will also include vehicle design updates and logistics product revisions to address failures that emerge from PPT.</p> <p><b>FY 2022 to FY 2023 Increase/Decrease Statement:</b> Decrease in FY 2023 due to completion of MTA Rapid Prototyping efforts in FY 2022.</p>	84.670	20.320	-
<p><b>Title:</b> Product Development - LRIP Phase</p> <p><b>Description:</b> MPF Low Rate Initial Production (LRIP) phase development efforts, to include logistics product development, Technical Manual (TM) and Training Support Package (TSP) updates, LRIP test planning, purchase of the System Support Package (SSP) for LRIP phase testing, and contractor technical support to test.</p> <p><b>FY 2022 Plans:</b> FY 2022 activities include the continued development of logistics products such as the Operator, Field Maintenance, and Battle Damage and Repair (BDAR) Manuals, continued supportability analysis such as Level of Repair Analysis (LORA), Reliability and Maintainability (R&amp;M) Analysis, development of National/Depot Maintenance Work Requirements (NMWR/DMWR), and continued</p>	-	22.176	40.722

**UNCLASSIFIED**

<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2023 Army		<b>Date:</b> April 2022		
<b>Appropriation/Budget Activity</b> 2040 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604645A / <i>Armored Systems Modernization (ASM) - Eng Dev</i>	<b>Project (Number/Name)</b> EV8 / <i>Mobile Protected Firepower</i>		
<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>
<p>development of products to support operator, field level maintenance, and instructor training. FY 2022 will also fund LRIP test planning, long lead spare parts procurement to enable start of product quality testing (PQT) in FY 2024, and concept development to inform the integration of future ammunition.</p> <p><b>FY 2023 Plans:</b> FY 2023 efforts will continue logistics products development, to include Operator, Field Maintenance, and BDAR Manuals, initiation of Logistics Demonstration (Log Demo) planning, additive manufacturing concept exploration, predictive logistics integration, development of an interactive technical manual capability, continued LORA, Source of Repair (SORA), and R&amp;M analyses, spare parts provisioning, development of NMWRs/DMWRs, and continued creation of training products for operators, field level maintainers, and instructors. FY 2023 activities also include contractor technical support to Government Corrosion testing, System Level (SL) Live Fire testing, and Automatic Fire Extinguisher System (AFES) testing, in addition to the procurement of long lead-time spare parts (engines, transmissions, gunner's sights) to support FY 2024 Production Qualification Testing (PQT) and the FY 2024 Initial Operational Test &amp; Evaluation (IOT&amp;E).</p> <p><b>FY 2022 to FY 2023 Increase/Decrease Statement:</b> Increase in FY 2023 due to a longer LRIP product development contract period of performance in FY 2023 (12 months) versus FY 2022 (6 months) and increased logistics development efforts.</p>				
<p><b>Title:</b> Prototype Upgrade to LRIP Configuration</p> <p><b>Description:</b> After a successful Milestone C, eight (8) prototype vehicles will be updated to the initial LRIP configuration to support LRIP phase survivability testing, logistics products development, and implementation of design changes driven by Production Qualification Testing (PQT) and Initial Operational Test and Evaluation (IOT&amp;E). Upgrading MPF prototypes to LRIP configuration will result in substantial cost avoidance compared with producing additional LRIP vehicles to support test requirements.</p> <p><b>FY 2022 Plans:</b> Eight (8) vehicles will be retrofitted to LRIP configuration to support performance and survivability testing.</p> <p><b>FY 2023 Plans:</b> Material procurement and assembly labor to continue updating eight (8) MPF Prototypes to the initial LRIP configuration for use in survivability testing, logistics products development, and to aid implementation of design changes driven by Production Qualification Testing (PQT) and Initial Operational Test and Evaluation (IOT&amp;E).</p> <p><b>FY 2022 to FY 2023 Increase/Decrease Statement:</b> Decrease in FY 2023 due to declining level of material procurement for prototype updates to LRIP configuration.</p>		-	13.982	9.520
<p><b>Title:</b> LRIP Vehicles for Full-Up System-Level (FUSL) Live Fire</p>		-	35.708	-

**UNCLASSIFIED**

<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2023 Army		<b>Date:</b> April 2022		
<b>Appropriation/Budget Activity</b> 2040 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604645A / <i>Armored Systems Modernization (ASM) - Eng Dev</i>	<b>Project (Number/Name)</b> EV8 / <i>Mobile Protected Firepower</i>		
<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>
<p><b>Description:</b> New production of MPF LRIP vehicles for use in FUSL Live Fire Testing (LFT).</p> <p><b>FY 2022 Plans:</b> Three (3) vehicles produced in the LRIP configuration will be used in MPF destructive FUSL live fire testing.</p> <p><b>FY 2022 to FY 2023 Increase/Decrease Statement:</b> Decrease in FY 2023 due to completion of resourcing LRIP vehicles for FUSL LFT in FY 2022.</p>				
<p><b>Title:</b> Government Test and Evaluation (Performance Testing)</p> <p><b>Description:</b> During the Rapid Prototyping phase, the Government executed performance testing on 16 prototypes (eight per contractor) and four BH&amp;T assets (two per contractor). Performance testing during the Rapid Prototyping phase included Ballistic Hull &amp; Turret (BH&amp;T) survivability testing and Pre-Production Testing (PPT), which consisted of vehicle-level lethality, Reliability, Availability, and Maintainability (RAM), and electromagnetic compatibility and interference testing. PPT also contained an initial cybersecurity evaluation.</p> <p>BH&amp;T testing provided Force Protection and vehicle-level survivability data while PPT provided vehicle-level automotive, lethality, and RAM performance data. The results of Rapid Prototyping performance testing will inform the LRIP down select and the 3Q FY 2022 Milestone C decision.</p> <p>During the LRIP phase, the Government will execute performance testing on 12 vehicles. Performance testing during the LRIP phase will include survivability testing and Production Quality Testing (PQT), which consists of vehicle-level lethality, RAM, electromagnetic compatibility and interference testing, and cybersecurity testing.</p> <p><b>FY 2022 Plans:</b> Activities include completion of MTA Rapid Prototyping phase testing, to include PPT and draft test reports to inform the down-select Source Selection Evaluation Board (SSEB) and the Milestone C decision. Additionally, finite element analysis, failure modes effects analysis, ballistic modeling and simulation, crew casualty and prototype damage assessments, and controlled damage experiments will be completed to inform detail planning for LRIP phase performance and survivability testing.</p> <p><b>FY 2023 Plans:</b> In FY 2023, Prototypes, as well as Prototypes updated to LRIP configuration, will be utilized to conduct system performance testing, to include System Level (SL) Live Fire Testing (LFT), Automatic Fire Extinguisher System (AFES) testing, Controlled</p>		13.549	4.304	9.432

**UNCLASSIFIED**

<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2023 Army		<b>Date:</b> April 2022		
<b>Appropriation/Budget Activity</b> 2040 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604645A / Armored Systems Modernization (ASM) - Eng Dev	<b>Project (Number/Name)</b> EV8 / Mobile Protected Firepower		
<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>
Damage Experiments (CDE), Special Armor testing, and Corrosion testing. Additionally, Modeling and System (M&S) will be conducted to demonstrate the ballistic resiliency and crew survivability of a production-representative vehicle.  <b>FY 2022 to FY 2023 Increase/Decrease Statement:</b> Increase in FY 2023 due to initiation of SL Live Fire Testing and the execution of non-destructive survivability testing.				
<b>Title:</b> Government Test and Evaluation (Operational Testing)  <b>Description:</b> During the Rapid Prototyping phase, the Government executed operational testing on eight prototypes (four per contractor) through a Limited User Test (LUT). The LUT provided early data regarding the operational effectiveness and suitability of the MPF.  During LRIP phase, the Government will execute a thirteen (13) vehicle Company-Level Initial Operational Test and Evaluation (IOT&E). The IOT&E is planned for FY 2024.		7.256	-	-
<b>Title:</b> Soldier Vehicle Assessment (SVA)  <b>Description:</b> The SVA placed eight prototype vehicles (four per contractor) into the hands of soldiers to develop MPF Tactics, Techniques, and Procedures (TTPs), assess Doctrine, Organization, Training materiel Leadership and educational Personal Facilities and Policy (DOTmLPPF-P) domains, collect data to support preparations for the LUT, and inform future MPF Product Improvements. SVA force-on-force and maneuver exercises were conducted at Ft. Bragg, NC while SVA gunnery events were at Ft. Stewart, GA.		1.229	-	-
<b>Title:</b> Training Aids and Devices Development  <b>Description:</b> Development of aids and devices to facilitate institutional training for MPF operators and maintainers. MPF training aids and devices will include Hands on Trainers (HOT), Diagnostic/Troubleshooting Trainers (DTT), Part Task Trainers (PTT), an Advanced Gunnery Training System (AGTS), and an MPF Combat Vehicle Tactical Engagement Simulation System (CVTESS). MPF aids and devices will be interoperable/compatible with the Army's current live Tactical Engagement Simulation (TES) systems; instrumentation systems; Common Training Instrumentation Architecture (CTIA); Live, Virtual Constructive-Integrated Architecture (LVC-IA) training enablers; and the future Synthetic Training Environment (STE).  <b>FY 2022 Plans:</b> In FY 2022 MPF gunnery and maintenance training device development performance specifications will be completed, requests for proposal will be released, and contracts will be awarded.  <b>FY 2023 Plans:</b>		0.072	2.259	5.720

**UNCLASSIFIED**

<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2023 Army		<b>Date:</b> April 2022		
<b>Appropriation/Budget Activity</b> 2040 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604645A / <i>Armored Systems Modernization (ASM) - Eng Dev</i>	<b>Project (Number/Name)</b> EV8 / <i>Mobile Protected Firepower</i>		
<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>
Continued development of MPF gunnery, maintenance, and collective training devices, to include build of prototype assets and start of training device testing.  <b>FY 2022 to FY 2023 Increase/Decrease Statement:</b> Increase in FY 2023 due to additional developmental activity to assemble prototype gunnery, maintenance, and collective training devices.				
<b>Title:</b> Government Engineering and Project Management  <b>Description:</b> Government program management and system engineering support, to include salaries, travel, training, supplies, facilities, equipment, and support contractors necessary to manage development efforts during the MPF MTA Rapid Prototyping and LRIP phases.  <b>FY 2022 Plans:</b> Continue the engineering, logistics, product assurance and test, financial management, and operations support for the MPF MTA Rapid Prototyping and LRIP development activities from November 2021 through October 2022. Will include salaries, training, travel, supplies, facilities, and equipment to manage MPF test and evaluation, logistics products development, system vulnerability and environmental impact assessments, and future capability enhancement acquisition strategy development.  <b>FY 2023 Plans:</b> Continued engineering, logistics, product assurance and test, financial management, and operations support for MPF LRIP development activities from November 2022 through October 2023. Includes salaries, training, travel, supplies, facilities, and equipment to manage MPF test and evaluation and logistics products development efforts.  <b>FY 2022 to FY 2023 Increase/Decrease Statement:</b> Decrease in FY 2023 due to reduced engineering and product assurance support after completion of MTA Rapid Prototyping phase in FY 2022.		13.797	13.673	5.893
<b>Title:</b> Government Support to Product Development  <b>Description:</b> Government support to MPF MTA Rapid Prototyping efforts, to include Source Selection activities, and Large Caliber Weapon System development.  <b>FY 2022 Plans:</b> Engineering, logistics, product assurance and test, financial management, acquisition, legal, and operations support for a November 2021 through June 2022 MPF Source Selection Evaluation Board (SSEB) to down-select to a single vendor for Low Rate Initial Production (LRIP). SSEB expenditures will include salaries, training, travel, supplies, facilities, and equipment.  <b>FY 2022 to FY 2023 Increase/Decrease Statement:</b>		3.419	5.874	-

**UNCLASSIFIED**

<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2023 Army	<b>Date:</b> April 2022
--	-------------------------

<b>Appropriation/Budget Activity</b> 2040 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604645A / <i>Armored Systems Modernization (ASM) - Eng Dev</i>	<b>Project (Number/Name)</b> EV8 / <i>Mobile Protected Firepower</i>
--	--	---

<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>	FY 2021	FY 2022	FY 2023
Decrease in FY 2023 due to completion of SSEB in FY 2022.			
<b>Title:</b> SIBR/STTR Transfer	-	4.482	-
<b>FY 2022 Plans:</b> SIBR/STTR Transfer			
<b>FY 2022 to FY 2023 Increase/Decrease Statement:</b> SIBR/STTR Transfer			
<b>Accomplishments/Planned Programs Subtotals</b>	123.992	122.778	71.287

<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<u>Line Item</u>	<u>FY 2021</u>	<u>FY 2022</u>	<u>FY 2023</u> <u>Base</u>	<u>FY 2023</u> <u>OCO</u>	<u>FY 2023</u> <u>Total</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• G80820: <i>Mobile Protected Firepower</i>	-	286.977	356.708	-	356.708	523.636	578.418	579.163	579.214	Continuing	Continuing

**Remarks**  
Standard Serial Number (SSN) G80820 resources production of MPF. FY 2022 - FY 2024 resourcing supports MPF Low Rate Initial Production (LRIP). Resourcing in FY 2025 and beyond supports MPF Full Rate Production (FRP).

**D. Acquisition Strategy**  
The MPF RFP was issued on 21 November 2017 as a full and open, best value competitive action. On 25 September 2018, the Army Acquisition Executive (AAE) approved the execution of MPF Rapid Prototyping activities under Section 804 of the 2016 National Defense Authorization Act (NDAA) (Public Law 114-92), Middle Tier Acquisition (Rapid Prototyping). The competitive selection process for MPF Rapid Prototyping contracts included the evaluation of written proposals and optional bid samples to provide additional substantiating data for Source Selection Evaluation. On 17 December 2018, two MPF Rapid Prototyping contracts were awarded, one to BAE Systems and the other to General Dynamics Land Systems (GDLS). A Source Selection Evaluation will be finalized to down-select to a single contractor for a Fixed Price Incentive (FPI) Low Rate Initial Production (LRIP) effort upon AAE Milestone C approval in 3rd Quarter, FY 2022. An MPF Full Rate Production (FRP) decision is targeted for 3rd Quarter, FY 2025.

**UNCLASSIFIED**

**Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army** **Date:** April 2022

<b>Appropriation/Budget Activity</b> 2040 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604645A / Armored Systems Modernization (ASM) - Eng Dev	<b>Project (Number/Name)</b> EV8 / Mobile Protected Firepower
--	---	--

<b>Management Services (\$ in Millions)</b>				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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 Engineering and Project Management	MIPR	Various : Warren, MI; Picatinny, NJ	38.151	13.797	Oct 2020	13.673	Nov 2021	5.893	Nov 2022	-		5.893	12.666	84.180	-
SIBR/STTR Transfer	Various	Various : Various	-	-		4.482		-		-		-	0.000	4.482	-
<b>Subtotal</b>			38.151	13.797		18.155		5.893		-		5.893	12.666	88.662	N/A

<b>Product Development (\$ in Millions)</b>				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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			
Product Development - Middle Tier Acquisition (MTA) Rapid Prototyping Contracts	C/FFP	BAE Systems; General Dynamics Land Systems (GDLS) : Sterling Heights, MI; Sterling Heights, MI	610.150	84.670	Oct 2020	20.320	Oct 2021	-		-		-	0.000	715.140	722.538
Product Development - Government Furnished Material (GFM) Procurement	Various	Various : Various	2.130	-		-		-		-		-	0.000	2.130	-
Product Development - LRIP Phase - LRIP Log Development and Contractor Support to Test	C/FFP	TBD : TBD	-	-		22.176	Jun 2022	40.722	Dec 2022	-		40.722	103.052	165.950	183.224
Prototype Upgrade to LRIP Configuration	C/FFP	TBD : TBD	-	-		13.982	Jun 2022	9.520	Dec 2022	-		9.520	0.000	23.502	-
LRIP Vehicles for Full-Up System-Level (FUSL) Live Fire	C/FPIF	TBD : TBD	-	-		35.708	Jun 2022	-		-		-	0.000	35.708	-
<b>Subtotal</b>			612.280	84.670		92.186		50.242		-		50.242	103.052	942.430	N/A

**UNCLASSIFIED**

**Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army** **Date:** April 2022

<b>Appropriation/Budget Activity</b> 2040 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604645A / Armored Systems Modernization (ASM) - Eng Dev	<b>Project (Number/Name)</b> EV8 / Mobile Protected Firepower
--	---	--

Product Development (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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			

**Remarks**  
 Product Development - Middle Tier Acquisition (MTA) Rapid Prototyping Contracts Remark: MTA Rapid Prototyping contract costs are inclusive of both competitors during the Mobile Protected Firepower (MPF) MTA Rapid Prototyping Phase (1st Quarter FY 2019 to 3rd Quarter FY 2022). The MPF program will down-select to a single vendor for LRIP at Milestone C (3rd Quarter, FY 2022). Therefore, LRIP phase Product Development efforts reflect contract costs of a single vendor.

Support (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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 Support to Product Development - Large Caliber Weapon System Development	PO	Armament Research, Development and Engineering Center (ARDEC); Watervliet Arsenal (WVA); Rock Island Arsenal (RIA) : Picatinny, NJ; Watervliet, NY; Rock Island, IL	10.524	3.419	Dec 2020	1.503	Nov 2021	-		-		-	0.000	15.446	-
Government Support to Product Development - Source Selection Evaluation Board (SSEB)	Various	Various : Various	5.002	-		4.371	Jan 2022	-		-		-	0.000	9.373	-
Training Aids and Devices Development	Various	Program Executive Office Simulation, Training and Instrumentation (PEO STRI) : Orlando, FL	0.152	0.072	Apr 2021	2.259	Mar 2022	5.720	Nov 2022	-		5.720	4.850	13.053	-
<b>Subtotal</b>			15.678	3.491		8.133		5.720		-		5.720	4.850	37.872	N/A

**UNCLASSIFIED**

**Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army** **Date:** April 2022

<b>Appropriation/Budget Activity</b> 2040 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604645A / Armored Systems Modernization (ASM) - Eng Dev	<b>Project (Number/Name)</b> EV8 / Mobile Protected Firepower
--	---	--

Test and Evaluation (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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 Test and Evaluation (Performance Test, Operational Test, Soldier Vehicle Assessment)	PO	Aberdeen Test Center (ATC); Yuma Test Center (YTC) : Aberdeen, MD; Yuma, AZ	17.774	22.034	Nov 2020	4.304	Nov 2021	9.432	Nov 2022	-		9.432	41.388	94.932	-
<b>Subtotal</b>			17.774	22.034		4.304		9.432		-		9.432	41.388	94.932	N/A
<b>Project Cost Totals</b>			683.883	123.992		122.778		71.287		-		71.287	161.956	1,163.896	N/A

**Remarks**  
 Prior Years funding supported award of Rapid Prototyping contracts to design and build 24 total Mobile Protected Firepower (MPF) prototypes (12 per vendor) and four Ballistic Hull & Turrets (two per vendor) and initiation of Pre-production Prove-out Testing (PPT). FY 2021 funding supported the continuation of PPT, completion of Limited User Testing (LUT), and further development of MPF Logistics Products (Technical Manuals, Training Support Package, Repair Parts and Special Tools List). FY 2022 funding completed MPF Rapid Prototyping, executed the Low Rate Initial Production (LRIP) source selection, and awarded LRIP phase contracts to continue logistics products development and procure long lead spares for Performance Qualification Test (PQT) and Initial Operational Test & Evaluation (IOT&E). FY 2023 funding will continue MPF logistics products development, initiate PQT, perform Modeling and Simulation (M&S) to aid in demonstrating system ballistic resiliency and survivability, and initiate build of prototype MPF training devices.

**UNCLASSIFIED**

<b>Exhibit R-4, RDT&amp;E Schedule Profile: PB 2023 Army</b>		<b>Date: April 2022</b>
<b>Appropriation/Budget Activity</b> 2040 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604645A / Armored Systems Modernization (ASM) - Eng Dev	<b>Project (Number/Name)</b> EV8 / Mobile Protected Firepower

Event Name	FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027			
	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
Milestone C (MS C)							3																					
Full Rate Production (FRP) Decision																			7									
Full Material Release (FMR)																				9								
First Unit Equipped (FUE)																				10								
Risk Reduction of Large Caliber Weapon System																												
Mobile Protected Firepower (MPF) Rapid Prototyping Phase																												
Ballistic Hull & Turret (BH&T) Deliveries (4 BH&Ts)																												
BH&T Test Readiness Review (TRR)																												
BH&T Test																												
Prototype Deliveries (24 Prototypes)																												
Pre-Production Test (PPT)																												
Soldier Vehicle Assessment (SVA) Readiness Review (RR)																												
SVA																												

**UNCLASSIFIED**

<b>Exhibit R-4, RDT&amp;E Schedule Profile: PB 2023 Army</b>		<b>Date:</b> April 2022
<b>Appropriation/Budget Activity</b> 2040 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604645A / Armored Systems Modernization (ASM) - Eng Dev	<b>Project (Number/Name)</b> EV8 / Mobile Protected Firepower

Event Name	FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027			
	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
Limited User Training (LUT)				■ LUT																								
Training Support Package (TSP) Development	■ TSP Development																											
Maintenance Task Analysis (MTA) and Level Of Repair Analysis	■ MTA and LORA																											
Technical Manual (TM) Development	■ TM Development																											
TM Validation				■ TM Validation																								
TM Development Update									■ TM Development Update																			
TM Verification																■ TM Verification												
Level of Repair Analysis (LORA)									■ LORA																			
Source of Repair Analysis (SORA)									■ SORA																			
Training Support Package (TSP) Update									■ TSP Update																			
National/Depot Maintenance Work Instruction (NMWR/DMWR) Development									■ NMWR/DMWR Development																			
Spares Provisioning									■ Spares Provisioning																			
Logistics Demonstration (Log Demo)																■ Log Demo												

**UNCLASSIFIED**

<b>Exhibit R-4, RDT&amp;E Schedule Profile: PB 2023 Army</b>		<b>Date: April 2022</b>
<b>Appropriation/Budget Activity</b> 2040 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604645A / Armored Systems Modernization (ASM) - Eng Dev	<b>Project (Number/Name)</b> EV8 / Mobile Protected Firepower

Event Name	FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027			
	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
Prototype Vehicle Updates to LRIP Configurations (Qty 8)																												
Corrosion Testing																												
CDE/SL/AFES Testing																												
Supportability Assessment (SA)																												
Training Devices Requirements Refinement Performance Spec																												
Training Devices Product Development and Prototype Build																												
Low Rate Initial Production (LRIP) Option #1 Award																												
LRIP Option #1 Deliveries																												
Product Quality Test (PQT)																												
Full Up System Level (FUSL) Live Fire Testing																												
Initial Operational Test and Evaluation (IOT&E)																												
LRIP Option #2 Award																												
LRIP Option #2 Deliveries																												

**UNCLASSIFIED**

<b>Exhibit R-4, RDT&amp;E Schedule Profile: PB 2023 Army</b>		<b>Date:</b> April 2022
<b>Appropriation/Budget Activity</b> 2040 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604645A / Armored Systems Modernization (ASM) - Eng Dev	<b>Project (Number/Name)</b> EV8 / Mobile Protected Firepower

Event Name	FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027																																																																																			
	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																																																																																
LRIP Option #3 Award													6 ▲ LRIP Option #3 Award																																																																																															
LRIP Option #3 Deliveries													8 ▲ FRP Lot #1 Award																																																																																															
FRP Lot #1 Award																																																																																																												
FRP Lot #1 Deliveries																																																																																																												
FRP Lot #2 Award																																																																																																												
FRP Lot #2 Deliveries																																																																																																												
FRP Lot #3 Award																																																																																																												

**UNCLASSIFIED**

<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2023 Army		<b>Date:</b> April 2022
<b>Appropriation/Budget Activity</b> 2040 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604645A / Armored Systems Modernization (ASM) - Eng Dev	<b>Project (Number/Name)</b> EV8 / Mobile Protected Firepower

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Section 804 MTA Rapid Prototyping Designation	4	2018	4	2018
Milestone C (MS C)	3	2022	3	2022
Full Rate Production (FRP) Decision	2	2025	2	2025
Full Material Release (FMR)	4	2025	4	2025
First Unit Equipped (FUE)	4	2025	4	2025
Request for Proposal (RFP) Release	1	2018	1	2018
Risk Reduction of Large Caliber Weapon System	3	2017	3	2022
Middle Tier Acquisition (MTA) Source Selection Evaluation Board (SSEB)	2	2018	1	2019
Rapid Prototyping Contract Awards	1	2019	1	2019
Mobile Protected Firepower (MPF) Rapid Prototyping Phase	1	2019	3	2022
Design Maturity Review (DMR)	3	2019	3	2019
Ballistic Hull & Turret (BH&T) Deliveries (4 BH&Ts)	1	2021	2	2021
BH&T Test Readiness Review (TRR)	1	2021	1	2021
BH&T Test	2	2021	4	2021
Prototype Deliveries (24 Prototypes)	3	2020	2	2022
Pre-Production Test (PPT)	4	2020	2	2022
Soldier Vehicle Assessment (SVA) Readiness Review (RR)	1	2021	1	2021
SVA	2	2021	4	2021
Limited User Training (LUT)	4	2021	1	2022
Training Support Package (TSP) Development	2	2019	3	2022
Maintenance Task Analysis (MTA) and Level Of Repair Analysis (LORA)	2	2019	3	2022
Technical Manual (TM) Development	2	2019	3	2022

**UNCLASSIFIED**

**Exhibit R-4A, RDT&E Schedule Details: PB 2023 Army** **Date:** April 2022

<b>Appropriation/Budget Activity</b> 2040 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604645A / Armored Systems Modernization (ASM) - Eng Dev	<b>Project (Number/Name)</b> EV8 / Mobile Protected Firepower
--	---	--

Events	Start		End	
	Quarter	Year	Quarter	Year
TM Validation	3	2021	3	2022
TM Development Update	1	2023	4	2024
TM Verification	2	2024	4	2024
Level of Repair Analysis (LORA)	3	2022	3	2025
Source of Repair Analysis (SORA)	3	2022	3	2025
Training Support Package (TSP) Update	3	2022	3	2025
Nationa/Depot Maintenance Work Instruction (NMWR/DMWR) Development	3	2022	3	2025
Spares Provisioning	3	2022	3	2025
Logistics Demonstration (Log Demo)	1	2024	2	2024
Prototype Vehicle Updates to LRIP Configurations (Qty 8)	3	2022	2	2024
Corrosion Testing	4	2022	4	2023
CDE/SL/AFES Testing	4	2022	3	2023
Supportability Assessment (SA)	1	2022	1	2022
Training Devices Requirements Refinement Performance Spec Development	2	2019	3	2022
Training Devices Product Development and Prototype Build	3	2022	3	2024
Low Rate Initial Production (LRIP) Option #1 Award	3	2022	3	2022
LRIP Option #1 Deliveries	1	2024	1	2025
Product Quality Test (PQT)	1	2024	1	2025
Full Up System Level (FUSL) Live Fire Testing	1	2024	1	2025
Initial Operational Test and Evaluation (IOT&E)	4	2024	1	2025
LRIP Option #2 Award	3	2023	3	2023
LRIP Option #2 Deliveries	1	2025	1	2026
LRIP Option #3 Award	3	2024	3	2024
LRIP Option #3 Deliveries	1	2026	1	2027
FRP Lot #1 Award	3	2025	3	2025

**UNCLASSIFIED**

**Exhibit R-4A, RDT&E Schedule Details:** PB 2023 Army **Date:** April 2022

<b>Appropriation/Budget Activity</b> 2040 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604645A / <i>Armored Systems Modernization (ASM) - Eng Dev</i>	<b>Project (Number/Name)</b> EV8 / <i>Mobile Protected Firepower</i>
--	--	---

Events	Start		End	
	Quarter	Year	Quarter	Year
FRP Lot #1 Deliveries	1	2027	1	2028
FRP Lot #2 Award	3	2026	3	2026
FRP Lot #2 Deliveries	1	2028	1	2029
FRP Lot #3 Award	3	2027	3	2027
FRP Lot #3 Deliveries	1	2029	1	2030