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Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Army										Date: February 2018		
Appropriation/Budget Activity 2040: Research, Development, Test & Evaluation, Army / BA 5: System Development & Demonstration (SDD)					R-1 Program Element (Number/Name) PE 0604604A / MEDIUM TACTICAL VEHICLES							
COST (\$ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
Total Program Element	-	0.000	6.039	3.704	-	3.704	2.152	3.325	3.360	3.458	0.000	22.038
H07: Family Of Med Tac Veh	-	0.000	6.039	3.704	-	3.704	2.152	3.325	3.360	3.458	0.000	22.038

A. Mission Description and Budget Item Justification

This Program Element (PE) supports continued modernization of the Army's medium truck and trailer fleet and the Armored Security Vehicle (ASV).

The Family of Medium Tactical Vehicles (FMTV) fills 2 1/2-ton Light Medium Tactical Vehicle (LMTV) and 5-ton Medium Tactical Vehicle (MTV) truck requirements and associated companion trailers. FMTV trucks perform over 55 percent of the Army's local haul, line haul, and unit resupply missions. It operates throughout theater as multi-purpose transportation vehicles in combat, combat support, and combat service support units.

The ASV is an all-wheel drive armored vehicle that provides ballistic protection, overhead protection, and protection against landmines. It is used by the Military Police to perform missions of area security, maneuver, and mobility support.

Funding from this Program Element will be used to support the continued evolution of the future FMTV fleet as well as tech insertion opportunities to keep the current FMTV fleet relevant on today's battlefield. This includes upgrades in survivability and crew protection, improved safety by leveraging advancements in commercial active safety technologies, modernizing the aging Low Velocity Air Drop (LVAD) fleet of vehicles, improved utilization through modularity, integration of advanced high efficiency powertrains and fuel saving technologies, and insertion of autonomous vehicle capabilities that will change the way transportation missions are conducted around the world.

FY 2019 Project H07 Base funds in the amount of \$3.704 million will be used to conduct Live Fire Testing of the FMTVA2 truck and the FMTVA1P2 Underbody Armor Kit, as well as design and build an FMTV LVAD technical demonstrator.

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B. Program Change Summary (\$ in Millions)	FY 2017	FY 2018	FY 2019 Base FY 2019 OCO FY 2019 Total
Previous President's Budget	0.000	6.039	3.744 - 3.744
Current President's Budget	0.000	6.039	3.704 - 3.704
Total Adjustments	0.000	0.000	-0.040 - -0.040
• Congressional General Reductions	-	-	
• Congressional Directed Reductions	-	-	
• Congressional Rescissions	-	-	
• Congressional Adds	-	-	
• Congressional Directed Transfers	-	-	
• Reprogrammings	-	-	
• SBIR/STTR Transfer	-	-	
• Adjustments to Budget Years	-	-	-0.040 - -0.040
Change Summary Explanation			
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Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0604604A / MEDIUM TACTICAL VEHICLES				Project (Number/Name) H07 / Family Of Med Tac Veh			
COST (\$ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
H07: Family Of Med Tac Veh	-	0.000	6.039	3.704	-	3.704	2.152	3.325	3.360	3.458	0.000	22.038
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		
A. Mission Description and Budget Item Justification												
The Family of Medium Tactical Vehicles (FMTV) A2 production and Engineering Change Proposal (ECP) modernization effort restores vehicle performance that was lost due to the addition of armor protection kits as the threat to tactical vehicles and the FMTV has increased. The FMTVA2 also addresses Space, Weight, Power, and Cooling (SWaP-C) constraints from having to host an increasing amount of Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR) and Counter-Incendiary Explosive Device (IED) equipment. Program Management Office (PMO) Medium Tactical Vehicles (MTV) is executing the FMTVA2 effort documented in a signed Acquisition Decision Memorandum (ADM) by the Army Acquisition Executive (AAE) on 16 November 2015. FY 2019 Project H07 Base funds in the amount of \$1.000 million will be used to conduct Live Fire Testing of the FMTVA2.												
The FMTVA1P2 represents the FMTV model currently in production with over 38,000 vehicles fielded to date. The FMTVA1P2 will remain in the tactical vehicle fleet until 2040 and beyond. To keep the A1P2 fleet viable into the future and able to perform its mission in austere environments, upgrades to Survivability and Crew Protection Kits will be required as the threat on the battlefield evolves. FY 2019 Project H07 Base funds in the amount of \$.200 million will be used for Live Fire Testing of the improvements to the FMTV Underbody Armor Kits that are required to support Full Material Release.												
The three FMTV Low Velocity Air Drop (LVAD) models (M1081, M1093, and M1094) ended production in 2009 and represent the oldest vehicles in the FMTV fleet. Updates to the LVAD are needed to address obsolescence issues and bring the configuration up to current standards. FY 2019 Project H07 Base funds in the amount of \$2.504 million will be used to design and build an FMTV LVAD technical demonstrator.												
B. Accomplishments/Planned Programs (\$ in Millions)									FY 2017	FY 2018	FY 2019	
Title: FMTVA2 Live Fire Test									-	1.900	1.000	
Description: Live Fire test assets are needed to support Live Fire Testing required per Chapter 139, Title 10 USC.												
FY 2018 Plans: Funding is to procure four Family of Medium Tactical Vehicles (FMTV) M1078A2 vehicles for Live Fire testing.												
FY 2019 Plans: Funding will be used to conduct Live Fire Testing on four FMTV M1078A2 vehicles.												
FY 2018 to FY 2019 Increase/Decrease Statement: Continuing effort.												
Title: FMTV Underbody Armor Kit Improvement									-	1.800	-	

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B. Accomplishments/Planned Programs (\$ in Millions)		FY 2017	FY 2018	FY 2019
Description: Development and testing of improvements to the FMTV Underbody Armor Kit that simplifies the design and reduces installation cost and complexity. FY 2018 Plans: Funding is for development and testing of the FMTV Underbody Armor Kit. FY 2018 to FY 2019 Increase/Decrease Statement: No FY19 RDTE will be used for this category.				
Title: Configuration Options Next Generation LVAD Model Description: Updates to the Low Velocity Air Drop (LVAD) are needed to address obsolescence issues and bring the configuration up to today's standards. FY 2018 Plans: Funding is for analysis to support configuration options for the next generation LVAD model. FY 2018 to FY 2019 Increase/Decrease Statement: No FY19 RDTE used for this category.		-	0.500	-
Title: Improved Vehicle Safety Technologies Description: Improved vehicle safety technologies are now available commercially that can reduce the number and severity of motor vehicle accidents FY 2018 Plans: Funding is for development and integration of active safety improvements on the FMTVA1P2. FY 2018 to FY 2019 Increase/Decrease Statement: No FY19 RDTE used for this category.		-	1.339	-
Title: FMTV Obsolescence Concerns Description: Address potential obsolescence issues with the powertrain and Material Handling Equipment (MHE) used on the FMTV. FY 2018 Plans: Funding is for Analysis of Alternative engine and MHE options to address future obsolescence issues. FY 2018 to FY 2019 Increase/Decrease Statement:		-	0.450	-

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B. Accomplishments/Planned Programs (\$ in Millions)										FY 2017	FY 2018	FY 2019
No FY19 RDTE used for this category.												
Title: Systems Engineering/Program Management										-	0.050	-
Description: SEPM includes System Engineering and Program Management oversight required to manage the program and provide contractor oversight. Salaries, Benefits, Travel, Personnel Training and other Government costs are included for retaining a professional acquisition workforce.												
FY 2018 Plans: Includes Program Management, Engineering and Budget support for FMTVA1P2 and FMTVA2.												
FY 2018 to FY 2019 Increase/Decrease Statement: No FY19 RDTE used for this category.												
Title: FMTVA1P2 Underbody Armor Kit Live Fire Tests										-	-	0.200
Description: Live Fire testing of the FMTVA1P2 Underbody Armor Kit improvements to support Full Material Release.												
FY 2019 Plans: Funds will be for Live Fire Testing of the FMTVA1P2 Underbody Armor Kit improvements to support Full Material Release.												
FY 2018 to FY 2019 Increase/Decrease Statement: To begin Live Fire testing of FMTVA1P2 Underbody Armor Kit begins.												
Title: FMTV LVAD Technical Demonstrator Vehicle Design and Build										-	-	2.504
FY 2019 Plans: Funding will be used to design and build an FMTV LVAD technical demonstrator.												
FY 2018 to FY 2019 Increase/Decrease Statement: New effort to design and build an FMTV LVAD technical demonstrator.												
Accomplishments/Planned Programs Subtotals										-	6.039	3.704
C. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost	
• D15500: Family Of Medium Tactical Veh (FMTV)	352.769	78.650	132.882	-	132.882	82.544	91.472	104.211	48.729	0.000	891.257	

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C. Other Program Funding Summary (\$ in Millions)											
			<u>FY 2019</u>	<u>FY 2019</u>	<u>FY 2019</u>					<u>Cost To</u>	
<u>Line Item</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Base</u>	<u>OCO</u>	<u>Total</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022</u>	<u>FY 2023</u>	<u>Complete</u>	<u>Total Cost</u>
<u>Remarks</u>											
D. Acquisition Strategy											
Conduct FMTVA2 Live Fire Testing: This effort will utilize Government test facilities.											
Conduct FMTV Underbody Armor Kit Live Fire Testing: This effort will utilize Government testing facilities.											
Design and build FMTV LVAD Technical Demonstrator: This effort will utilize Government testing facilities.											
E. Performance Metrics											
N/A											

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Army												Date: February 2018			
Appropriation/Budget Activity 2040 / 5						R-1 Program Element (Number/Name) PE 0604604A / MEDIUM TACTICAL VEHICLES						Project (Number/Name) H07 / Family Of Med Tac Veh			
Product Development (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
FMTV Underbody Armor Kit Improvement.	TBD	To Be Decided : TBD	-	-		1.800		-		-		-	0.000	1.800	-
Configuration Options Next Generation LVAD Model	TBD	To Be Decided : TBD	-	-		0.500		-		-		-	0.000	0.500	-
Improved Vehicle Safety technologies	TBD	To Be Decided : TBD	-	-		1.339		-		-		-	0.000	1.339	-
FMTV Obsolescence Concerns	TBD	To Be Decided : TBD	-	-		0.450		-		-		-	0.000	0.450	-
FMTV LVAD Technical Demonstrator Design and Build	MIPR	TBD : TBD	-	-		-		2.504	Mar 2019	-		2.504	Continuing	Continuing	Continuing
Subtotal			-	-		4.089		2.504		-		2.504	Continuing	Continuing	N/A
Support (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
System Engineering/ Program Management (SEPM)	MIPR	PM MTV : TACOM LCMC, Warren, MI	-	-		0.050		-		-		-	0.000	0.050	-
Subtotal			-	-		0.050		-		-		-	0.000	0.050	N/A
Test and Evaluation (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
FMTVA2 Live Fire Assets	C/FFP	TBD : TBD	-	-		1.900		-		-		-	0.000	1.900	Continuing
FMTVA2 Live Fire Tests	MIPR	ATC : Aberdeen Proving Ground	-	-		-		1.000	Jul 2019	-		1.000	0.000	1.000	-
FMTVA1P2 Underbody Armor Kit Live Fire Tests	MIPR	ATC : Aberdeen Proving Ground	-	-		-		0.200	Apr 2019	-		0.200	0.000	0.200	-

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Test and Evaluation (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		1.900		1.200		-		1.200	0.000	3.100	N/A

	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	-	6.039	3.704	-	3.704	Continuing	Continuing	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2019 Army Date: February 2018

Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604604A / MEDIUM TACTICAL VEHICLES	Project (Number/Name) H07 / Family Of Med Tac Veh
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Event Name	FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023			
	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
FMTVA1P2 FY17-19 Production (Sole Source)																												
FMTVA1P2 Underbody Armor Kit Improvement																												
Configuration Options Next Generation LVAD Model																												
Improved Vehicle Safety Technologies																												
FMTV Obsolescence Concerns																												
FMTVA2 FY18-25 Production (Competitive)																												
FMTVA2 Test, TDP Update, Log Product Development																												
FMTVA2 Live Fire Test Assets																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2019 Army			Date: February 2018
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604604A / MEDIUM TACTICAL VEHICLES	Project (Number/Name) H07 / Family Of Med Tac Veh	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
RESEARCH, DEVELOPMENT, TEST & EVALUATION	1	2003	1	2004
FMTV Technology Insertion	1	2008	4	2015
FMTV Armor Technology Insertion	1	2010	4	2015
FMTV Fuel Economy	1	2010	4	2015
FMTV Force Protection Improvement	2	2015	4	2015
ASV Mission Enhancement Package (MEP)	2	2010	2	2012
ASV Current Production	1	2010	1	2013
FMTVA1P2 FY17-19 Production (Sole Source)	4	2017	4	2019
FMTVA1P2 Underbody Armor Kit Improvement	3	2018	4	2020
Configuration Options Next Generation LVAD Model	3	2018	4	2019
Improved Vehicle Safety Technologies	3	2018	4	2019
FMTV Obsolescence Concerns	3	2018	4	2019
FMTVA2 FY18-25 Production (Competitive)	2	2018	2	2025
FMTVA2 Test, TDP Update, Log Product Development	3	2018	1	2022
FMTVA2 Live Fire Test Assets	2	2018	3	2019