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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2022 Army **Date:** May 2021

<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 0605625A / <i>Manned Ground Vehicle</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	-	197.304	171.890	225.106	-	225.106	-	-	-	-	-	-
CF6: <i>Next Generation Combat Vehicle (OMFV)</i>	-	197.304	171.890	225.106	-	225.106	-	-	-	-	-	-

**Note**

FY 2020 Congressional Rescission \$130,415. PB 2020 is now \$66,889.

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

The Optionally Manned Fighting Vehicle (OMFV), as part of an Armored Brigade Combat Team (ABCT), will replace the Bradley Infantry Fighting Vehicle to provide the capabilities required to defeat a future near-peer competitor's force. The Army is seeking a transformational increase in warfighting capability, not simply another incremental improvement over the current Bradley Fighting Vehicle. The OMFV is a purpose built manned platform that maneuvers Soldiers to a point of positional advantage to engage in close combat. It is designed to operate with and may operate without a crew and Soldiers under armor based on the commander's decision. It delivers decisive lethality during the execution of combined arms maneuver while also controlling maneuver robotics and semi-autonomous systems. The platform will be optimized for Life Cycle Environmental Profiles both natural and induced to remain safe, suitable and effective and with significantly reduced logistical burdens. The vehicle will include an architecture to allow for increased capability and growth margin. In close combat, the OMFV will deliver decisive lethality during the execution of combined arms maneuver. The changing character of warfare drives changes in how the Army delivers, operates, and sustains future combat capabilities.

As part of an ABCT, the OMFV will not fight alone, but rather as part of a section, platoon, and company of mechanized infantry. These companies will execute cross-domain maneuver and defeat pacing threats in the close area while maneuvering Soldiers to tactical objectives. Once the unit has transitioned to an integrated mounted and dismounted fight, the OMFV supports our Soldiers with advanced sensors, lethality, protection, and mission command.

This program supports the Next Generation Combat Vehicle Cross Functional Team.

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<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022 Base</b>	<b>FY 2022 OCO</b>	<b>FY 2022 Total</b>
Previous President's Budget	205.620	327.732	426.892	-	426.892
Current President's Budget	197.304	171.890	225.106	-	225.106
Total Adjustments	-8.316	-155.842	-201.786	-	-201.786
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-143.880			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-8.316	-11.962			
• Adjustments to Budget Years	-	-	-201.786	-	-201.786

**Congressional Add Details (\$ in Millions, and Includes General Reductions)**

**Project:** CF6: *Next Generation Combat Vehicle (OMFV)*

Congressional Add: *Tactical Communications (Congressional Add)*

Congressional Add Subtotals for Project: CF6

Congressional Add Totals for all Projects

	<b>FY 2020</b>	<b>FY 2021</b>
	3.500	-
	3.500	-
	3.500	-

**Change Summary Explanation**

The decrease from FY 2021 to FY 2022 is reflective of the change in strategy for the OMFV program.

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2022 Army										<b>Date:</b> May 2021		
<b>Appropriation/Budget Activity</b> 2040 / 5					<b>R-1 Program Element (Number/Name)</b> PE 0605625A / Manned Ground Vehicle				<b>Project (Number/Name)</b> CF6 / Next Generation Combat Vehicle (OMFV)			
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022 Base</b>	<b>FY 2022 OCO</b>	<b>FY 2022 Total</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025</b>	<b>FY 2026</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
CF6: Next Generation Combat Vehicle (OMFV)	-	197.304	171.890	225.106	-	225.106	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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

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This program supports the Next Generation Combat Vehicle Cross Functional Team.

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

	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>
<b>Title:</b> Government Engineering & Program Management	8.412	12.899	22.348
<b>Description:</b> Provides Government System Engineering and Program Management support. Funding will cover the costs of government and direct support contractor labor, travel, training, supplies, equipment and facilities to effectively manage Project Management Office, Maneuver Combat Systems (PM MCS).			
<b>FY 2021 Plans:</b> Provides Government System Engineering and Program Management support. This funding will include the cost of government and direct support contractor labor, travel, training, supplies, equipment and facilities to effectively manage the PM MCS program.			
<b>FY 2022 Plans:</b>			

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2022 Army		<b>Date:</b> May 2021		
<b>Appropriation/Budget Activity</b> 2040 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0605625A / <i>Manned Ground Vehicle</i>	<b>Project (Number/Name)</b> CF6 / <i>Next Generation Combat Vehicle (OMFV)</i>		
<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>
<p>Provides Government System Engineering and Program Management support. Costs include matrix and SETA contractors within PM MCS as well as SSEB expense for the detailed design contracts. This funding will include the cost of government and direct support contractor labor, travel, training, supplies, equipment and facilities to effectively manage the PM MCS program.</p> <p><b>FY 2021 to FY 2022 Increase/Decrease Statement:</b> The increase from FY 2021 to FY 2022 is due to an increase in PM Support and inflation.</p>				
<p><b>Title:</b> Product Development</p> <p><b>Description:</b> Costs include the continuation of Concept Design efforts including System Functional Review (SFR) and development towards PDR. Contractor efforts include Development Engineering, Producibility Engineering and Planning, Development Tooling, System Engineering and Program Management, Data and Special Equipment.</p> <p><b>FY 2021 Plans:</b> This funding includes the award of up to 5 vendors at decision point one after the SSEB has been conducted. The cost includes initial OMFV development costs for up to 5 vendors to mature design. The efforts include, but not limited to; hardware and software development, producibility engineering and planning, development tooling, system engineering and program management, initial logistics data and product development, and data and support equipment. The insertion point will be for mature/quick win technology sprints if the technologies are meeting the OMFV objectives.</p> <p><b>FY 2022 Plans:</b> Costs include the remaining funding for the contract award of up to 5 vendors. These costs include the continuation of concept design efforts including System Readiness Review (SRR) and development towards System Functional Review (SFR). Contractor efforts include development engineering, producibility engineering and planning, development tooling, system engineering, initial logistics data and product development, and data and special equipment.</p> <p><b>FY 2021 to FY 2022 Increase/Decrease Statement:</b> The increase in funding from FY 2021 to FY 2022 include the development towards the critical design review and award of the contracts.</p>		-	136.471	175.000
<p><b>Title:</b> Modeling Simulation &amp; Analysis</p> <p><b>Description:</b> Government Modeling,Simulation and Analysis in support of requirements analysis and concept refinement.</p> <p><b>FY 2021 Plans:</b> The modeling and simulation analysis of the digital designs for up to 5 vendors as they begin their digital design, modeling simulation begins for sub-system tests, using emulators, software coding and they will continue throughout development.</p> <p><b>FY 2022 Plans:</b></p>		-	6.100	3.571

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<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>
<p>Costs include government modeling, simulation, and analysis in support of requirements analysis and concept refinement, includes but not limited to activities that provide results on mobility, lethality, survivability, human cognitive performance, and human systems integration.</p> <p><b>FY 2021 to FY 2022 Increase/Decrease Statement:</b> The decrease cost from FY 2021 to FY 2022 is due to the decrease in modeling and simulation testing.</p>				
<p><b>Title:</b> Other Support Cost</p> <p><b>Description:</b> OMFV studies and research which includes the completion of the AoA, completion of milestone documentation development, and detailed trade space studies and analysis.</p> <p><b>FY 2021 Plans:</b> This cost includes OMFV studies and research which includes the completion of the AoA, SBIR/STTR/FFRDC, and completion of milestone documentation development.</p> <p><b>FY 2022 Plans:</b> Costs includes continued OMFV studies and research, completion of milestone documentation development, and detailed trade space studies, analysis, and subsystem studies in critical areas.</p> <p><b>FY 2021 to FY 2022 Increase/Decrease Statement:</b> The increase from FY 2021 to FY 2022 is due to the increase in documentation development &amp; studies.</p>		8.962	4.320	18.886
<p><b>Title:</b> Government Architecture</p> <p><b>Description:</b> Develop the USG baseline architecture by enhancing PEO GCS Common Infrastructure Architecture (GCIA) based on Modular Open Systems Approach (MOSA) to guide the OMFV system development. The effort is directed by the Army Acquisition Executive to achieve transformational capabilities for OMFV via Modular, Open and Scalable Architecture, and by using applicable open standards. The effort will be executed by PEO GCS, PM MCS, and ASA (ALT)?s Chief Technology Officer teams cohort with applicable CCDC and ARL teams, and industry consortium</p> <p><b>FY 2021 Plans:</b> Guide the development of MOSA compliant open OMFV system; A common hardware (aka vetronics) and software infrastructure; Enable platform upgrades to a more autonomous system To facilitate shared data to the AI based systems and other capabilities which will assist in avoiding costly long-term vendor-lock; Intent is to reduce future integration cost and development effort; Enable efficient testing and qualification procedures that will optimize on validations, qualifications and test (Cost, Schedule and efforts).</p> <p><b>FY 2022 Plans:</b></p>		-	12.100	5.301

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<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>
Costs include the continued development of the Common Infrastructure Architecture to guide the development of the OMFV, including, but not limited to, digital modeling, Architecture Integration Laboratory, and the Architectural Description.  <b>FY 2021 to FY 2022 Increase/Decrease Statement:</b> Government Architecture is a new initiative to develop Common Infrastructure Architecture.			
<b>Title:</b> XM-913 <b>Description:</b> This cost includes the XM913, ammunition and the PM MAS EMD requirements.	35.039	-	-
<b>Title:</b> Sub System Studies <b>Description:</b> Inform the A-CDD and P-Spec by working directly with sub-system providers to understand current levels of technology, challenges to integration, cost/benefit to technologies. It is also a risk mitigation for areas that may not be CDRL deliveries as part of Phase 2 RFP.	10.976	-	-
<b>Title:</b> Congressional Rescission <b>Description:</b> FY 2020 Congressional Rescission \$130,415. PB 2020 is now \$66,889.	130.415	-	-
<b>Accomplishments/Planned Programs Subtotals</b>	193.804	171.890	225.106

	<b>FY 2020</b>	<b>FY 2021</b>
<b>Congressional Add:</b> Tactical Communications (Congressional Add)  <b>FY 2020 Accomplishments:</b> Initiate integration of a Unified Voice Management System (UVMS), to include wireless crew intercommunications, across the Army ground combat fleet. The effort will include the development of a common set of requirements, laboratory-based evaluations, and System Integration Lab-based demonstrations to outline key system characteristics. To further development an acquisition-ready solution, the effort will mature the Simplified Acquisition Management Plan, construct a provisioning plan, and create technical data packages and interface control documents.	3.500	-
<b>Congressional Adds Subtotals</b>	3.500	-

**C. Other Program Funding Summary (\$ in Millions)**  
N/A

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Army		Date: May 2021
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605625A / Manned Ground Vehicle	Project (Number/Name) CF6 / Next Generation Combat Vehicle (OMFV)

**C. Other Program Funding Summary (\$ in Millions)**

**Remarks**

In FY 2022, funding in the amount of \$0.365 million for manpower was realigned to Operations and Maintenance. Program support costs have been accurately updated to reflect the realignments.

**D. Acquisition Strategy**

The Optionally Manned Fighting Vehicle (OMFV) is a Middle Tier Acquisition - Rapid Prototyping Program and is designed to maneuver Soldiers in the Forward Operating Environment to a position of advantage to engage in close combat and deliver decisive lethality during the execution of combined arms maneuver. The OMFV must exceed current capabilities while overmatching similar threat class systems. It must be optimized for urban and rural terrain areas, while also defeating pacing threats, and be characterized by the ability to spiral in advanced technologies as they mature. The capabilities desired focus to improve lethality, protection, mobility, range, survivability.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Army												Date: May 2021			
Appropriation/Budget Activity						R-1 Program Element (Number/Name)				Project (Number/Name)					
2040 / 5						PE 0605625A / Manned Ground Vehicle				CF6 / Next Generation Combat Vehicle (OMFV)					
Product Development (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 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
Other Support Costs	TBD	TBD : TBD	-	8.962	Jun 2020	4.320	Mar 2021	18.886	Jan 2022	-		18.886	0.000	32.168	-
XM-913	MIPR	PM MAS : Picatinny, NJ	-	35.039	Mar 2020	-		-		-		-	0.000	35.039	-
Product Development	TBD	TBD : TBD	-	-		136.471	Jul 2021	175.000	Jan 2022	-		175.000	0.000	311.471	-
Government Architecture	TBD	TBD : TBD	-	-		12.100	Jul 2021	5.301	Jun 2022	-		5.301	0.000	17.401	-
Sub System Studies	TBD	TBD : TBD	-	10.976	Sep 2020	-		-		-		-	0.000	10.976	-
Tactical Communications	TBD	TBD : TBD	-	3.500	Aug 2020	-		-		-		-	0.000	3.500	-
<b>Subtotal</b>			-	58.477		152.891		199.187		-		199.187	0.000	410.555	N/A
Support (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 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
Government Engineering & Program Management	MIPR	Warren, MI : TBD	-	8.412	Mar 2020	12.899	Jun 2021	22.348	Mar 2022	-		22.348	0.000	43.659	-
Congressional Rescission	TBD	TBD : TBD	-	130.415	Dec 2020	-		-		-		-	0.000	130.415	-
<b>Subtotal</b>			-	138.827		12.899		22.348		-		22.348	0.000	174.074	N/A
Test and Evaluation (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 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
Modeling Simulation & Analysis	TBD	TBD : TBD	-	-		6.100	Jun 2021	3.571	May 2022	-		3.571	0.000	9.671	-
<b>Subtotal</b>			-	-		6.100		3.571		-		3.571	0.000	9.671	N/A
<b>Project Cost Totals</b>			-	197.304		171.890		225.106		-		225.106	0.000	594.300	N/A



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<b>Exhibit R-4, RDT&amp;E Schedule Profile: PB 2022 Army</b>		<b>Date: May 2021</b>
<b>Appropriation/Budget Activity</b> 2040 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0605625A / <i>Manned Ground Vehicle</i>	<b>Project (Number/Name)</b> <i>CF6 / Next Generation Combat Vehicle (OMFV)</i>

Event Name	FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
	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
Request for Proposal development	[Redacted] RFP Development																											
Request for Proposal Release					▲ 1 RFP release																							
Decision Point #1									▲ 2 Contract award up to 5 OEMs																			
A-CDD									■ A-CDD																			
Concept Design (5 OEMs)									[Redacted] Concept Design (5 OEMs)																			
Request for Proposal Development #2									[Redacted] RFP Development #2																			
Request for Proposal Release #2									▲ 3 RFP Release																			
Decision Point #2													▲ 4 Contract award up to 3 OEMs															
Detailed Design (3 OEMs)													[Redacted] Detailed Design (3 OEMs)															
Preliminary Design Review													▲ 5 PDR															
Critical Design Review																	▲ 6 CDR											
CDD																	■ CDD											
Outcome Determination Milestone B																					▲ 7 MS B							

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2022 Army		<b>Date:</b> May 2021
<b>Appropriation/Budget Activity</b> 2040 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0605625A / <i>Manned Ground Vehicle</i>	<b>Project (Number/Name)</b> CF6 / <i>Next Generation Combat Vehicle (OMFV)</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Request for Proposal development	2	2020	1	2021
Request for Proposal Release	1	2021	1	2021
Decision Point #1	4	2021	4	2021
A-CDD	1	2022	2	2022
Concept Design (5 OEMs)	4	2021	1	2023
Request for Proposal Development #2	1	2022	3	2022
Request for Proposal Release #2	3	2022	3	2022
Decision Point #2	2	2023	2	2023
Detailed Design (3 OEMs)	2	2023	4	2024
Preliminary Design Review	4	2023	4	2023
Critical Design Review	4	2024	4	2024
CDD	1	2024	2	2024
Outcome Determination Milestone B	4	2024	4	2024