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

Appropriation/Budget Activity 2040: Research, Development, Test & Evaluation, Army / BA 5: System Development & Demonstration (SDD)	R-1 Program Element (Number/Name) PE 0604642A / Light Tactical Wheeled Vehicles
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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	-	1.013	2.965	1.976	-	1.976	1.974	0.000	0.000	0.000	0.000	7.928
E40: LTV Prototype	-	1.013	2.965	1.976	-	1.976	1.974	0.000	0.000	0.000	0.000	7.928

Note

This project includes GMV (AGMV1.1, Infantry Squad Vehicle (ISV), & SOCOM GMV1.1).

A. Mission Description and Budget Item Justification

The Army Ground Mobility Vehicle (GMV) provides Infantry Battalions with motorized expeditionary mobility platforms to provide needed operational mobility for the infantry squad with their associated equipment to move quickly around the battlefield. This capability is required across the range of military operations facing IBCT units conducting crises response, initial entry, and selected decisive action missions. GMV deploys worldwide by sea, air, and land modes to support strategic deployment and operational maneuver in accordance with Army and Joint doctrine. This capability provides flexibility for entry operations (permissive and non-permissive) to counter threat anti-access strategies by using multiple austere entry points to bring in combined arms configured units.

Funding supports modernization of the current Tactical Wheeled Vehicle fleets by investigating technology insertions including, but not limited to: condition based maintenance, vetronics, Victory Architecture, autonomous operations and other emerging technologies. Funding also supports developing initial prototypes to enable refinement of Operational Requirements and early user feedback to support future sustainment and operational movement operating concepts.

FY 2021 GMV budget activities in the amount of \$1.976 million include ISV performance, operational, qualification testing, and contractor test support.

B. Program Change Summary (\$ in Millions)	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Previous President's Budget	1.276	10.465	1.977	-	1.977
Current President's Budget	1.013	2.965	1.976	-	1.976
Total Adjustments	-0.263	-7.500	-0.001	-	-0.001
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-7.500			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.263	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	-0.001	-	-0.001

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<u>Change Summary Explanation</u> FY 2020: \$7.5M Congressional reduction for Up-Armored High Mobility Multi-purpose Wheeled Vehicle (UAH HMMWV) Recapitalization Program.		

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Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0604642A / <i>Light Tactical Wheeled Vehicles</i>				Project (Number/Name) E40 / <i>LTV Prototype</i>			
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
E40: <i>LTV Prototype</i>	-	1.013	2.965	1.976	-	1.976	1.974	0.000	0.000	0.000	0.000	7.928
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

This project includes GMV (AGMV1.1), Infantry Squad Vehicle (ISV), & SOCOM GMV1.1).

A. Mission Description and Budget Item Justification

The Army Ground Mobility Vehicle (GMV) provides enhanced tactical mobility for an Infantry Brigade Combat Team (IBCT) 9-Soldier infantry squad with their associated equipment to move quickly around the battlefield. This capability is required across the range of military operations facing IBCT units conducting crises response, initial entry, and selected decisive action missions. GMV deploys worldwide by sea, air, and land modes to support strategic deployment and operational maneuver in accordance with Army and Joint doctrine. This capability provides flexibility for entry operations (permissive and non-permissive) to counter threat anti-access strategies by using multiple austere entry points to bring in combined arms configured units.

Funding supports modernization of the current Tactical Wheeled Vehicle fleets by investigating technology insertions including, but not limited to: condition based maintenance, vetronics, Victory Architecture, autonomous operations and other emerging technologies. Funding also supports developing initial prototypes to enable refinement of Operational Requirements and early user feedback to support future sustainment and operational movement operating concepts.

FY 2021 GMV budget activities in the amount of \$1.976 million include ISV performance, operational, qualification testing, and contractor test support.

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

	FY 2019	FY 2020	FY 2021
Title: GMV Contract Test Support	-	0.225	0.273
Description: Funding is provided for Ground Mobility Vehicle (GMV) contractor test support.			
FY 2020 Plans: GMV ISV contractor test support.			
FY 2021 Plans: Continuation of ISV GMV contractor test support.			
FY 2020 to FY 2021 Increase/Decrease Statement: Increase in funding due to inflation.			
Title: GMV Test and Evaluation	1.013	2.111	1.703

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Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604642A / <i>Light Tactical Wheeled Vehicles</i>	Project (Number/Name) E40 / <i>LTV Prototype</i>		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2019	FY 2020	FY 2021
<p>Description: Funding is provided for Ground Mobility Vehicle (GMV) testing events in the support of Full Rate Production (FRP) decision.</p> <p>FY 2020 Plans: GMV ISV performance and quality testing. (Production Qualification Testing (PQT), Low Velocity Air Drop (LVAD), and operational testing)</p> <p>FY 2021 Plans: Continuation of ISV GMV testing which include Production Qualification Testing (PQT), Low Velocity Air Drop (LVAD), and operational testing.</p> <p>FY 2020 to FY 2021 Increase/Decrease Statement: Decrease in funding due to the ramp down of ISV testing events.</p>				
<p>Title: GMV Test Assets</p> <p>Description: Funding is provided for GMV Test Assets.</p> <p>FY 2020 Plans: LVAD test assets for ISV.</p> <p>FY 2020 to FY 2021 Increase/Decrease Statement: Test asset procurement completed.</p>		-	0.495	-
<p>Title: FY 2020 SBIR/STTR Transfer</p> <p>Description: Funding transferred in accordance with Title 15 USC ?638</p> <p>FY 2020 Plans: Funding transferred in accordance with Title 15 USC ?638</p> <p>FY 2020 to FY 2021 Increase/Decrease Statement: Funding transferred in accordance with Title 15 USC ?638</p>		-	0.134	-
Accomplishments/Planned Programs Subtotals		1.013	2.965	1.976

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

Line Item	FY 2019	FY 2020	FY 2021	FY 2021	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	Cost To	Total Cost
			Base	OCO	Total					Complete	
• D15505: <i>Ground Mobility Vehicles (Light) GMV (L)</i>	42.695	37.038	37.932	-	37.932	33.016	33.645	36.363	-	Continuing	Continuing

Remarks

D. Acquisition Strategy

Ground Mobility Vehicle (GMV) Phase I: Per AROC on 10 August 2018 following the Army's funding reprioritization, the Army's direction was to procure 127 vehicles for USASOC, and 170 for Army GMV 1.1 for 3 Airborne IBCTs.

GMV Phase II: Pursue development of the GMV ISV to fulfill the requirements for IBCTs using a non-developmental item. A firm fixed priced production contract will be awarded following successful prototype determination and findings from the ISV OTA. Production contract award is anticipated to be in FY 2020. Per AROC on 08 February 2019, the Vice Chief Secretary of Army (VCSA) approved the procurement objective of 11 IBCT sets at 59 vehicles per IBCT (649 vehicles) to be completed by FY 2024. During a follow on AROC on 22 February 2019, the VCSA approved the ISV annex to the approved SOCOM GMV1.1 Capabilities Production Document which approved the total requirement for the ISV program.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2021 Army												Date: February 2020				
Appropriation/Budget Activity				R-1 Program Element (Number/Name)				Project (Number/Name)								
2040 / 5				PE 0604642A / Light Tactical Wheeled Vehicles				E40 / LTV Prototype								
Management Services (\$ in Millions)				FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 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	
FY 2020 SBIR/STTR Transfer	TBD	Various : Various	-	-		0.134		-		-		-	0.000	0.134	-	
Subtotal			-	-		0.134		-		-		-	0.000	0.134	N/A	
Product Development (\$ in Millions)				FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 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	
GMV Contractor Test Support	TBD	TBD : TBD	0.009	-		0.225	Jun 2020	0.273	Jan 2021	-		0.273	0.000	0.507	-	
GMV Test Assets	TBD	TBD : TBD	-	-		0.495	Jun 2020	-		-		-	0.000	0.495	-	
GMV Prototypes	TBD	TBD : TBD	3.143	-		-		-		-		-	0.000	3.143	-	
Subtotal			3.152	-		0.720		0.273		-		0.273	0.000	4.145	N/A	
Support (\$ in Millions)				FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 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	
GMV Program Management Support	Various	PM Office : Selfridge ANG	0.337	-		-		-		-		-	0.000	0.337	-	
Subtotal			0.337	-		-		-		-		-	0.000	0.337	N/A	
Test and Evaluation (\$ in Millions)				FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 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	
GMV performance and qualification testing	MIPR	Various : Various	0.593	1.013	Aug 2019	2.111	Aug 2020	1.703	Nov 2020	-		1.703	0.000	5.420	-	
Subtotal			0.593	1.013		2.111		1.703		-		1.703	0.000	5.420	N/A	

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	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	Cost To Complete	Total Cost	Target Value of Contract		
Project Cost Totals	4.082	1.013	2.965	1.976	-	1.976	0.000	10.036	N/A		

Remarks
 Prior Years: FY18 includes AGMV1.1 and Infantry Squad Vehicle (ISV).

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Exhibit R-4, RDT&E Schedule Profile: PB 2021 Army		Date: February 2020
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604642A / <i>Light Tactical Wheeled Vehicles</i>	Project (Number/Name) E40 / <i>LTV Prototype</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
AGMV1.1 Log Development	Log Development																											
GMV ISV OTA Prototype Contract Award				▲ 1																								
GMV ISV OTA Run-off Testing					■																							
GMV ISV MS C							▲ 2																					
GMV ISV Production Contract							▲ 3		■																			
GMV ISV Production Qualification Testing (PQT)									■																			
GMV ISV Operational Testing													■															
GMV ISV First Unit Equipped (FUE)											▲ 4																	

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Exhibit R-4A, RDT&E Schedule Details: PB 2021 Army		Date: February 2020
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604642A / <i>Light Tactical Wheeled Vehicles</i>	Project (Number/Name) E40 / <i>LTV Prototype</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
AGMV1.1 Log Development	1	2019	1	2020
GMV ISV OTA Prototype Contract Award	4	2019	4	2019
GMV ISV OTA Run-off Testing	1	2020	2	2020
GMV ISV MS C	3	2020	3	2020
GMV ISV Production Contract	3	2020	3	2020
GMV ISV Production Qualification Testing (PQT)	4	2020	4	2021
GMV ISV Operational Testing	4	2021	1	2022
GMV ISV First Unit Equipped (FUE)	2	2021	2	2021