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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Army **Date:** March 2024

Appropriation/Budget Activity 2040: <i>Research, Development, Test & Evaluation, Army / BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0203802A / <i>Other Missile Product Improvement Programs</i>
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	0.000	8.698	10.044	23.708	0.000	23.708	0.000	0.000	0.000	0.000	0.000	42.450
VV2: TOW	-	8.698	10.044	23.708	-	23.708	-	-	-	-	0.000	42.450

Program MDAP/MAIS Code: PRE

Note

FY 2025 is the last year of funding for VV2, TOW efforts are on track for completion.

A. Mission Description and Budget Item Justification

VV2: TOW Weapon System includes the Improved Target Acquisition System (ITAS) and other TOW missile launchers, TOW missiles (BGM-71 series) and other missiles capable of being fired from TOW Missile launchers, and associated tactical training aids/devices. The TOW Weapon System provides long-range, lethal anti-armor and precision assault fires capability for Army Infantry Brigade Combat Teams (IBCT), Stryker Brigade Combat Teams (SBCT) and Armor Brigade Combat Teams (ABCT) within the Active, Reserve, and National Guard components. The United States Marine Corps (USMC) employs the TOW missile from its ITAS derived M41A7 Saber launchers and Anti-Tank Guided Missile (ATGM) vehicles.

The TOW Weapon System improvement program integrates U.S. Army missile and launcher modifications to improve missile safety and reliability, increase system survivability and lethality, and enhance system network capabilities. These capability improvements support Multi-Domain Operations (MDO) as a part of Joint All Domain Operations (JADO) and the Functional Concept for Movement and Maneuver by providing precise lethal capabilities in multiple domains against armored threat systems.

FY 2025 funding in the amount of \$23.708 million is for TOW missile obsolescence mitigation, system improvements, integration management, and countermeasure/threat management.

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B. Program Change Summary (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	9.027	10.044	9.030	-	9.030
Current President's Budget	8.698	10.044	23.708	-	23.708
Total Adjustments	-0.329	0.000	14.678	-	14.678
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	0.001	-			
• SBIR/STTR Transfer	-0.330	-			
• Adjustments to Budget Years	-	-	14.678	-	14.678

Change Summary Explanation

Request increased to expand component, sub-system, and integrated system hardware builds in support of the associated test program.

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Appropriation/Budget Activity 2040 / 7					R-1 Program Element (Number/Name) PE 0203802A / Other Missile Product Improvement Programs				Project (Number/Name) VV2 / TOW			
COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
VV2: TOW	-	8.698	10.044	23.708	-	23.708	-	-	-	-	0.000	42.450
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

FY 2025 is the last year of funding for VV2, TOW efforts are on track for completion.

A. Mission Description and Budget Item Justification

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FY 2025 funding in the amount of \$23.708 million is for TOW missile obsolescence mitigation, system improvements, integration management, and countermeasure/threat management.

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

	FY 2023	FY 2024	FY 2025
Title: TOW Missile Obsolescence Mitigation and System Improvements	8.211	9.498	23.149
Description: These funds will be used for development and qualification of new components, associated parts, and sub-systems such as the Radio Frequency Data-Link (RF DL), Missile Computer (MC), and Short Wave Infra-Red (SWIR) beacon. These components will be cut into production via Engineering Change Proposal upon qualification.			
FY 2024 Plans: Continue the design engineering of the RF DL, MC, and SWIR beacon, and required software to facilitate integration into a tactical system. Continue the build and test of components at the component and sub-system level. FY 2024 engineering efforts culminate in the completion of Design Engineering, Component Critical Design Review (CDR), and System CDR.			
FY 2025 Plans:			

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Appropriation/Budget Activity 2040 / 7	R-1 Program Element (Number/Name) PE 0203802A / Other Missile Product Improvement Programs	Project (Number/Name) VV2 / TOW
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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
Continue residual design engineering of the RF DL, MC, and SWIR beacon, and required software to facilitate integration into a tactical system. Expand the build and test of components at the component, sub-system, and integrated system level. FY 2025 engineering efforts result in component, sub-system, and system level hardware ready and available for tests at the sub-system and system level. FY 2024 to FY 2025 Increase/Decrease Statement: The increase in funds from FY 2024 to FY 2025 is to expand component, sub-system, and integrated system hardware builds and conduct the subsystem and system test program.			
Title: Integration and Counter Measure/Threat management Description: These funds will be used to prepare and perform technical assessments, threat analysis, concept studies, demonstrations, tests, and risk mitigation efforts to address current and emerging threats. FY 2024 Plans: Perform technical assessments, analysis and testing of missiles against various targets to demonstrate current and future capabilities. FY 2025 Plans: Perform technical assessments, analysis and testing of missiles against various targets to demonstrate current and future capabilities. FY 2024 to FY 2025 Increase/Decrease Statement: FY 2024 to FY 2025 funding increase represents minor increase due to economic assumptions.	0.487	0.546	0.559
Accomplishments/Planned Programs Subtotals	8.698	10.044	23.708

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u> <u>Base</u>	<u>FY 2025</u> <u>OCO</u>	<u>FY 2025</u> <u>Total</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>FY 2028</u>	<u>FY 2029</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• C59300: TOW 2 System Summary	261.817	120.475	121.448	-	121.448	129.071	124.086	122.915	124.144	0.000	1,003.956
• C61700: ITAS/TOW Mods	5.154	-	0.000	-	0.000	-	-	-	-	0.000	5.154
Remarks											

D. Acquisition Strategy
TOW Missile obsolescence mitigation design engineering, component hardware build, and component systems integration will be conducted through Raytheon as the current TOW Missile Prime contractor and only source that is both facilitized and qualified to produce all TOW Missile configurations.

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The Acquisition Strategy uses in-house expertise, Other Government Agencies (OGA), defense industry capabilities, and when appropriate Other Transaction Authority (OTA). The strategy allows the Government the ability to support urgent operational needs and unanticipated requirements, which require immediate and expert attention. This strategy allows the Government to maintain TOW Weapon System effectiveness and posture for emerging requirements while leveraging new authorities and incorporating new technologies.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Army **Date:** March 2024

Appropriation/Budget Activity 2040 / 7	R-1 Program Element (Number/Name) PE 0203802A / Other Missile Product Impr ovement Programs	Project (Number/Name) VV2 / TOW
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Management Services (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 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			
Systems Engr/Program Management, Govt	MIPR	Multiple : Redstone Arsenal, AL	2.261	0.792	Mar 2023	0.824	Mar 2024	0.857	Mar 2025	-		0.857	0.000	4.734	-
Subtotal			2.261	0.792		0.824		0.857		-		0.857	0.000	4.734	N/A

Product Development (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 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			
Component Design Engineering	SS/CPFF	Raytheon : Tucson, AZ	13.542	2.291	Mar 2023	2.698	Mar 2024	2.676	Mar 2025	-		2.676	0.000	21.207	-
Component Hardware Build	SS/CPFF	Raytheon : Tucson, AZ	3.129	3.707	Mar 2023	4.162	Mar 2024	15.653	Mar 2025	-		15.653	0.000	26.651	-
Integration and Counter Measure/Threat management	Various	Various : Various	0.665	0.428	Mar 2023	0.489	Mar 2024	0.559	Mar 2025	-		0.559	0.000	2.141	-
Subtotal			17.336	6.426		7.349		18.888		-		18.888	0.000	49.999	N/A

Test and Evaluation (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 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			
Component/System Test and Evaluation	SS/CPFF	Raytheon : Tucson, AZ	1.527	1.480	Mar 2023	1.871	Mar 2024	3.963	Mar 2025	-		3.963	0.000	8.841	-
Subtotal			1.527	1.480		1.871		3.963		-		3.963	0.000	8.841	N/A

Project Cost Totals	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
	21.124	8.698	10.044	23.708	-	23.708	0.000	63.574	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Army			Date: March 2024
Appropriation/Budget Activity 2040 / 7	R-1 Program Element (Number/Name) PE 0203802A / Other Missile Product Improvement Programs	Project (Number/Name) VV2 / TOW	

Event Name	FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029							
	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				
Component Design Engineering	[Blue bar spanning FY 2023 Q1 to FY 2026 Q1]																															
Component Hardware Build	[Blue bar spanning FY 2023 Q2 to FY 2026 Q1]																															
Component Testing	[Blue bar spanning FY 2023 Q3 to FY 2026 Q1]																															
Component Preliminary Design Review	[Blue triangle '1' in FY 2023 Q3]																															
System Preliminary Design Review	[Blue triangle '2' in FY 2024 Q1]																															
Component Critical Design Review	[Blue triangle '3' in FY 2024 Q2]																															
System Critical Design Review	[Blue triangle '4' in FY 2024 Q3]																															
System Test and Integration	[Blue bar spanning FY 2025 Q2 to FY 2026 Q1]																															
Integration and Counter Measure / Threat Management	[Blue bar spanning FY 2023 Q2 to FY 2026 Q1]																															

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Army		Date: March 2024
Appropriation/Budget Activity 2040 / 7	R-1 Program Element (Number/Name) PE 0203802A / <i>Other Missile Product Improvement Programs</i>	Project (Number/Name) VV2 / TOW

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Component Design Engineering	2	2021	1	2026
Component Hardware Build	2	2023	4	2025
Component Testing	3	2023	1	2026
Component Preliminary Design Review	3	2023	3	2023
System Preliminary Design Review	4	2023	4	2023
Component Critical Design Review	1	2024	1	2024
System Critical Design Review	3	2024	3	2024
System Test and Integration	2	2025	1	2026
Integration and Counter Measure / Threat Management	2	2023	4	2025