Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Army												Date: March 2023
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0603778A / *MLRS Product Improvement Program*							
COST ($ in Millions)	**Prior Years**	**FY 2022**	**FY 2023**	**FY 2024 Base**	**FY 2024 OCO**	**FY 2024 Total**	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**	**Cost To Complete**	**Total Cost**
Total Program Element	-	11.865	18.463	14.465	-	14.465	14.159	9.338	9.705	9.813	0.000	87.808
093: *Multi-Launch Rocket System (MLRS)*	-	4.792	10.176	10.233	-	10.233	9.927	5.101	5.422	5.482	0.000	51.133
DX8: *HIMARS Product Improvement Program*	-	7.073	8.287	4.232	-	4.232	4.232	4.237	4.283	4.331	0.000	36.675

A. Mission Description and Budget Item Justification

Program Element 0603778A MLRS Product Improvement Program supports development and testing of the Army's rocket launcher fleet, including the Multiple Launch Rocket System (MLRS) launcher and the High Mobility Artillery Rocket System (HIMARS) launcher. MLRS and HIMARS launchers support the Army's number one priority modernization effort, Long Range Precision Fires. Updated launchers are required to fire current and future munitions such as the Precision Strike Missile (PrSM) and Extended Range (ER) Guided Multiple Launch Rocket System (GMLRS). Funding from both Projects 093: Multi-Launch Rocket System (MLRS) and DX8: HIMARS Product Improvement Program contributes to common efforts between both launcher platforms such as Assured Positioning, Navigation and Timing (APNT) integration and rocket launcher software development effort by Combat Capabilities Development Command Aviation and Missile Center (CCDC AvMC). Supports the Army's goal to develop common solutions applicable to both MLRS and HIMARS launchers.

This funding line is a key enabler of the Army Modernization Priorities in support of the Multiple Launch Rocket System (MLRS) and the High Mobility Artillery Rocket System (HIMARS) programs. The MLRS and HIMARS programs are components of an integrated fires development effort that includes survivability, resiliency, and effectiveness improvements against advanced threats from near-peer adversaries. These efforts include integration with an evolving common fires mission command, common development tools and processes, and annual test and evaluation to provide data to support program assessments and progress toward closure of performance gaps.

093: Multi-Launch Rocket System (MLRS). The M270A1 Multiple Launch Rocket System (MLRS) launcher is a full-spectrum, combat-proven, all-weather, 24/7 lethal and responsive, precision strike weapon system. MLRS provides critical missile precision strike, operational shaping fires, counterfire, and close support destructive and suppressive fires. MLRS is a tracked, indirect fire, rocket/missile launcher capable of firing two pods of precision rockets/missiles from the current Multiple Launch Rocket System (MLRS) Family of Munitions (MFOM) to include the Guided Multiple Launch Rocket System-Unitary (GMLRS-U), GMLRS-Alternative Warhead, the Army Tactical Missile System (ATACMS) and future MFOM to include the Extended Range (ER) GMLRS, and the Precision Strike Missile (PrSM). Funds software development, training updates, Assured Positioning, Navigation and Timing (APNT) technology implementation, integration of satellite communications, and nonrecurring engineering for the MLRS launcher. Funds development related to maintaining capability associated with the current and evolving threat. Funds non-recurring engineering for system hardware and software modernization to the MLRS chassis, Launcher Loader Module, and Fire Control System.

DX8: HIMARS Product Improvement Program. The M142 High Mobility Artillery Rocket System (HIMARS) launcher is a full-spectrum, combat-proven, all-weather, 24/7 lethal and responsive, precision strike weapon system. HIMARS provides critical missile precision strike, operational shaping fires, counterfire, and close support

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Army	Date: March 2023
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army I* BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0603778A *I MLRS Product Improvement Program*

destructive and suppressive fires. HIMARS is a C-130 or C-17 transportable, wheeled, indirect fire, rocket/missile launcher capable of firing one pod of precision rockets/ missiles from the current and emerging Multiple Launch Rocket System (MLRS) Family of Munitions (MFOM), to include the Guided Multiple Launch Rocket System-Unitary (GMLRS-U), GMLRS- Alternative Warhead, the Army Tactical Missile System (ATACMS) and future MFOM to include the Extended Range (ER) GMLRS, and the Precision Strike Missile (PrSM). Funds software development, training updates, Assured Positioning, Navigation and Timing (APNT) technology implementation, integration of satellite communications, and nonrecurring engineering for the HIMARS launcher. Funds development related to maintaining capability associated with the current and evolving threat.

B. Program Change Summary ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	12.314	18.463	14.770	-	14.770
Current President's Budget	11.865	18.463	14.465	-	14.465
Total Adjustments	-0.449	0.000	-0.305	-	-0.305
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.449	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	-0.305	-	-0.305

Change Summary Explanation

Decreased funding to support higher Army priorities.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Army			Date: March 2023
Appropriation/Budget Activity 2040 / 7	R-1 Program Element (Number/Name) PE 0603778A / *MLRS Product Improvement Program*	Project (Number/Name) 093 / *Multi-Launch Rocket System (MLRS)*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
093: *Multi-Launch Rocket System (MLRS)*	-	4.792	10.176	10.233	-	10.233	9.927	5.101	5.422	5.482	0.000	51.133
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

093: Multi-Launch Rocket System. The M270A1 Multiple Launch Rocket System (MLRS) launcher is a full-spectrum, combat-proven, all-weather, 24/7 lethal and responsive, precision strike weapon system. MLRS provides critical missile precision strike, operational shaping fires, counterfire, and close support destructive and suppressive fires. MLRS is a tracked, indirect fire, rocket/missile launcher capable of firing two pods of precision rockets/missiles from the current Multiple Launch Rocket System (MLRS) Family of Munitions (MFOM) to include the Guided Multiple Launch Rocket System-Unitary (GMLRS-U), GMLRS-Alternative Warhead, the Army Tactical Missile System (ATACMS) and future MFOM to include the Extended Range (ER) GMLRS, and the Precision Strike Missile (PrSM). Funds software development, training updates, Assured Positioning, Navigation and Timing (APNT) technology implementation, integration of satellite communications, and nonrecurring engineering for the MLRS launcher. Funds development related to maintaining capability associated with the current and evolving threat. Funds non-recurring engineering for system hardware and software modernization to the MLRS chassis, Launcher Loader Module, and Fire Control System. Funding from both 093: Multi-Launch Rocket System and DX8: HIMARS Product Improvement Program contributes to common efforts between both launcher platforms such as Assured Positioning, Navigation and Timing (APNT) integration and rocket launcher software development effort by Combat Capabilities Development Command Aviation and Missile Center (CCDC AvMC). Supports the Army's goal to common solutions applicable to both MLRS and HIMARS launchers.

FY 2024 Base funding in the amount of $10.233 million for 093: Multi-Launch Rocket System continues tactical launcher software development, qualification, and materiel release to support the Fire Control System (FCS) electronic obsolescence mitigation hardware upgrade required to operate a MLRS launcher. The tactical software is a critical developmental item required to field additional launchers, maintain backward compatibility for current fleet sustainment, and is the first release of government developed software common to both the MLRS and HIMARS launcher. Continues integration of Assured Positioning, Navigation and Timing (APNT) capabilities, and integration of satellite communications, allowing MLRS to continue to effectively operate in near-peer and peer-threat environments.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: MLRS Product Improvement Program	4.792	9.805	10.233
Description: The M270A1 MLRS Product Improvement Program provides the preservation of platform viability and readiness to accept technology insertion as capability enhancements are developed and to mitigate electronic obsolescence. Support efforts include: obsolescence mitigation and enhancements for the M993A1 carrier, Fire Control System, Launcher Loader Module and Enhanced Command and Control; development and updating the Fire Control System software to keep pace with changes to the munitions; and performing Command, Control, Communications, Computers and Intelligence (C4I)/interoperability and Information Assurance compliance certification and network interoperability testing. Perform technical assessments and concept studies for			

Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 7	**R-1 Program Element (Number/Name)** PE 0603778A / *MLRS Product Improvement Program*	**Project (Number/Name)** 093 / *Multi-Launch Rocket System (MLRS)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
the following: electronic obsolescence mitigation, Assured Positioning, Navigation and Timing (APNT), crew protection, automotive and hardware/software enhancements, improving operational timelines and risk reduction. ***FY 2023 Plans:*** Continue updates to currently fielded tactical launcher software. Continue tactical launcher software development to incorporate updates post Functional Qualification and Post System Integration Qualification to support the Fire Control System (FCS) obsolescence mitigation hardware upgrade required to operate a MLRS launcher. Integrate and test the improved Assured Positioning, Navigation and Timing (APNT) and satellite communications capabilities. Support development, integration, and testing of Multiple Launch Rocket System solutions, to support biennial Survivability Resiliency/Cyber-Electromagnetic (SUREX) activities exercises and the Positioning, Navigation and Training (PNTX) exercise that support an annual Program Executive Office Missiles and Space (PEO MS)-led Multi-Domain Operations test/demonstration event. ***FY 2024 Plans:*** Continue updates to currently fielded tactical launcher software. Continue tactical launcher software development to incorporate updates post Functional Qualification Test (FQT) and Post System Integration Test (SIT) qualification to support the Fire Control System (FCS). Integrate and test the improved Assured Positioning, Navigation and Timing (APNT) capabilities and satellite communications. Development, integration, and testing of Multiple Launch Rocket System solutions, including test planning to support an annual PEO MS-led Multi-Domain Operations test/demonstration event. This event also includes biennial Survivability Resiliency/Cyber-Electromagnetic activities. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding increase supports planned lifecycle of the effort.			
Title: SBIR/STTR Transfer ***Description:*** Funding transferred in accordance with Title 15 USC 638. ***FY 2023 Plans:*** Funding transferred in accordance with Title 15 USC 638. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding transferred in accordance with Title 15 USC 638.	-	0.371	-
Accomplishments/Planned Programs Subtotals	4.792	10.176	10.233

Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 7	**R-1 Program Element (Number/Name)** PE 0603778A / *MLRS Product Improvement Program*	**Project (Number/Name)** 093 / *Multi-Launch Rocket System (MLRS)*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• C67500: *MLRS Mods*	273.856	218.359	168.198	-	168.198	185.479	166.770	167.021	167.193	Continuing	Continuing

Remarks

C67500 is Budget Line Item Number (BLIN) 24 funded in the Missiles Procurement Army appropriation.

D. Acquisition Strategy

The M270A1 MLRS Product Improvement Program performs development efforts required to address emerging requirements. Emerging requirements include, but are not limited to, updates to address emerging threats to the launcher organic version 8.x software, reacting to system changes driven by policy and emerging requirements, and maintaining architectural compatibility with other Army ground-based systems reducing sustainability costs. Update software and hardware for communications and munitions to maintain compatibility and operational viability against near-peer adversaries. The MLRS program is a component of an integrated fires development effort that includes survivability, resiliency, and effectiveness improvements against advanced threats from near-peer adversaries. This effort includes integration with an evolving common fires mission command, common development tools and processes, and annual test and evaluation to provide data to support program assessments and progress toward closure of performance gaps.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 7	**R-1 Program Element (Number/Name)** PE 0603778A / *MLRS Product Improvement Program*	**Project (Number/Name)** 093 / *Multi-Launch Rocket System (MLRS)*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SBIR/STTR Transfer	Various	Various : Various	-	-		0.371		-		-		-	0.000	0.371	-
		Subtotal	-	-		0.371		-		-		-	0.000	0.371	N/A

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Organic Software Development	MIPR	CCDC AvMC : Redstone Arsenal, AL	19.338	2.268	Dec 2021	4.013	Nov 2022	4.653	Nov 2023	-		4.653	Continuing	Continuing	Continuing
Assured Positioning, Navigation and Timing (APNT) Integration	WR	LMMFC : Grand Prairie, TX	-	1.907	Nov 2021	5.395	Nov 2022	5.175	Nov 2023	-		5.175	Continuing	Continuing	Continuing
		Subtotal	19.338	4.175		9.408		9.828		-		9.828	Continuing	Continuing	N/A

Remarks

Organic (government developed, maintained, and owned) software development includes additional research and development related to Fire Control System obsolescence.

Assured Positioning, Navigation and Timing (APNT) includes activities that modernized hardware which facilitates compliance with statutory requirements (M-Code) and improve system robustness against the GPS Jamming Threat (Anti-Jam), Anti-Spoofing capabilities, and integration of satellite communications.

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test Support	MIPR	Ft Hood, TX, ATEC, APG, MD, WSMR, RTC, : RSA: Various	1.174	0.617	Nov 2021	0.397	Nov 2022	0.405	Nov 2023	-		0.405	Continuing	Continuing	Continuing
		Subtotal	1.174	0.617		0.397		0.405		-		0.405	Continuing	Continuing	N/A

Remarks

Test support includes software qualification for the Fire Control System as well as the qualification and testing of the Assured Positioning, Navigation and Timing (APNT) solution.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army			Date: March 2023
Appropriation/Budget Activity 2040 / 7	R-1 Program Element (Number/Name) PE 0603778A / *MLRS Product Improvement Program*	Project (Number/Name) 093 / *Multi-Launch Rocket System (MLRS)*	

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	20.512	4.792		10.176		10.233		-		10.233	Continuing	Continuing	N/A

Remarks

Acronyms:
APNT: Assured Positioning, Navigation and Timing
AvMC: Aviation and Missile Center;
CCDC: Combat Capabilities Development Command;
STORM - Strategic and Operational Rocket and Missile Systems;
ATEC - US Army Test and Evaluation Command;
APG MD - Aberdeen Proving Ground, Maryland;
WSMR - White Sands Missile Range;
RTC RSA - Redstone Test Center, Redstone Arsenal, Alabama
LMMFC - Lockheed Martin Missiles & Fire Control

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 7	**R-1 Program Element (Number/Name)** PE 0603778A / *MLRS Product Improvement Program*	**Project (Number/Name)** 093 / *Multi-Launch Rocket System (MLRS)*

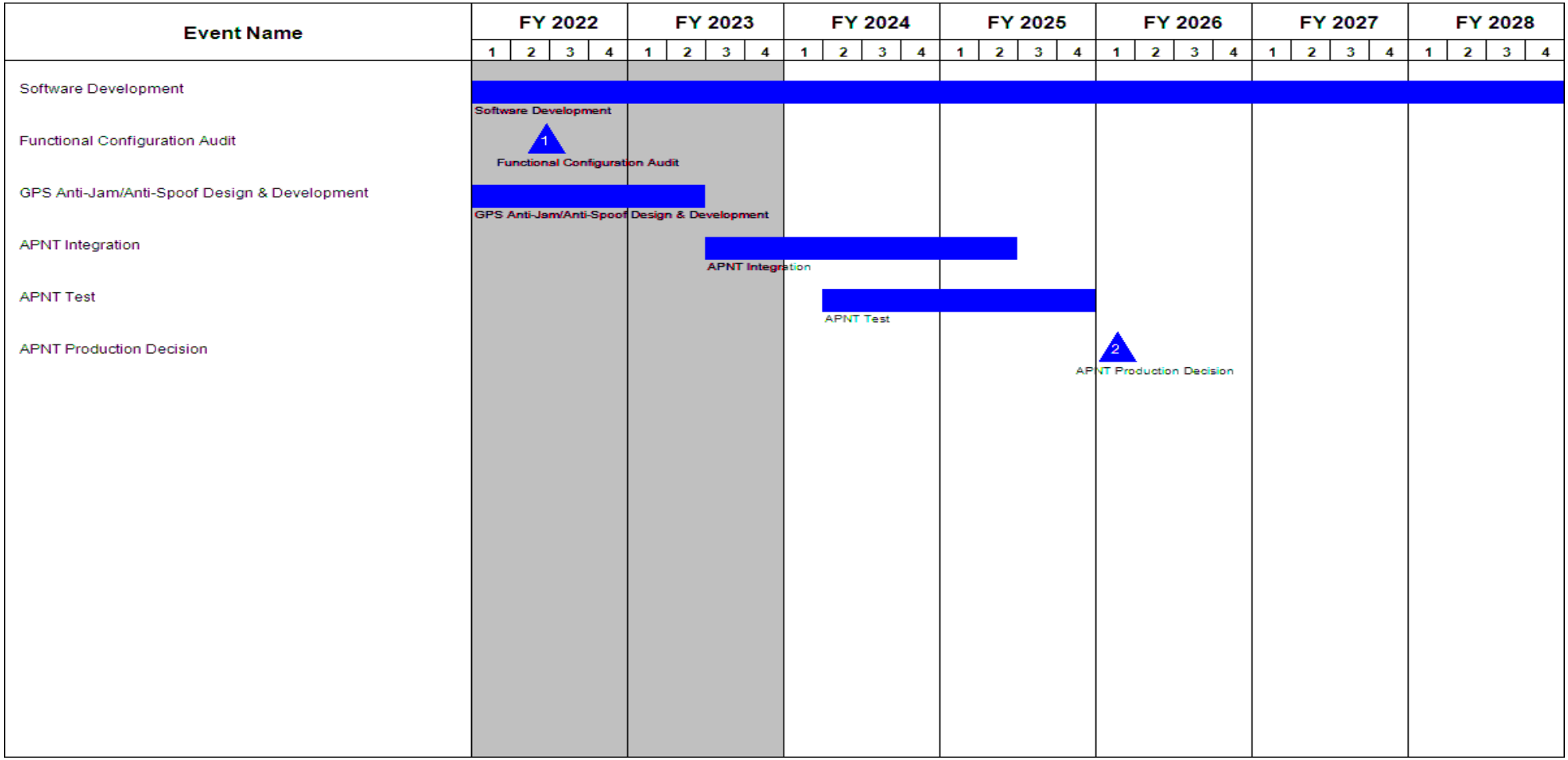

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 7	**R-1 Program Element (Number/Name)** PE 0603778A / *MLRS Product Improvement Program*	**Project (Number/Name)** 093 / *Multi-Launch Rocket System (MLRS)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Software Development	1	2018	4	2028
Functional Configuration Audit	2	2022	2	2022
GPS Anti-Jam/Anti-Spoof Design & Development	1	2021	2	2023
APNT Integration	3	2023	2	2025
APNT Test	2	2024	4	2025
APNT Production Decision	1	2026	1	2026

Exhibit R-2A, RDT&E Project Justification: PB 2024 Army											Date: March 2023	
Appropriation/Budget Activity 2040 / 7					R-1 Program Element (Number/Name) PE 0603778A / *MLRS Product Improvement Program*				Project (Number/Name) DX8 / *HIMARS Product Improvement Program*			
COST ($ in Millions)	**Prior Years**	**FY 2022**	**FY 2023**	**FY 2024 Base**	**FY 2024 OCO**	**FY 2024 Total**	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**	**Cost To Complete**	**Total Cost**
DX8: *HIMARS Product Improvement Program*	-	7.073	8.287	4.232	-	4.232	4.232	4.237	4.283	4.331	0.000	36.675
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

DX8: HIMARS Product Improvement Program. The M142 High Mobility Artillery Rocket System (HIMARS) launcher is a full-spectrum, combat-proven, all-weather, 24/7 lethal and responsive, precision strike weapon system. HIMARS provides critical missile precision strike, operational shaping fires, counterfire, and close support destructive and suppressive fires. HIMARS is a C-130 or C-17 transportable, wheeled, indirect fire, rocket/missile launcher capable of firing one pod of precision rockets/ missiles from the current and emerging Multiple Launch Rocket System (MLRS) Family of Munitions (MFOM), to include the Guided Multiple Launch Rocket System-Unitary (GMLRS-U), GMLRS- Alternative Warhead, the Army Tactical Missile System (ATACMS) and future MFOM to include the Extended Range (ER) GMLRS, and the Precision Strike Missile (PrSM). Funds software development, training updates, Assured Positioning, Navigation and Timing (APNT) technology implementation, integration of satellite communications, and nonrecurring engineering for the HIMARS launcher. Funds development related to maintaining capability associated with the current and evolving threat. Funding from both 093: Multi-Launch Rocket System and DX8: HIMARS Product Improvement Program contributes to common efforts between both launcher platforms such as Assured Positioning, Navigation and Timing (APNT) integration and rocket launcher software development effort by Combat Capabilities Development Command Aviation and Missile Center (CCDC AvMC). Supports the Army's goal to common solutions applicable to both MLRS and HIMARS launchers.

FY 2024 Base funding in the amount of $4.232 million for DX8: HIMARS Product Improvement Program supports tactical launcher software development and qualification to support the Fire Control System (FCS) electronic obsolescence mitigation hardware upgrade required to operate a HIMARS launcher. The tactical software is a critical developmental item required to field additional launchers, maintain backward compatibility for current fleet sustainment, and is the first release of government developed software common to both the MLRS and HIMARS launcher.

B. Accomplishments/Planned Programs ($ in Millions)	**FY 2022**	**FY 2023**	**FY 2024**
Title: MLRS Production Improvement Program (PIP)-HIMARS PIP	7.073	7.985	4.232
Description: The HIMARS Product Improvement Program provides the preservation of platform viability and readiness to accept technology insertion as capability enhancements are developed, technology is inserted in order to mitigate obsolescence. Support efforts include: obsolescence mitigation and enhancements for the Family of Medium Tactical Vehicles (FMTV) Carrier, Fire Control System, Launcher Loader Module and Enhanced Command and Control; development and updating the Fire Control System software to keep pace with changes to the munitions; and performing Command, Control, Communications, Computers and Intelligence (C4I)/interoperability and Information Assurance compliance certification and network interoperability testing. Perform technical assessments and concept studies for the following: electronic obsolescence mitigation and redesign to keep			

Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 7	**R-1 Program Element (Number/Name)** PE 0603778A / *MLRS Product Improvement Program*	**Project (Number/Name)** DX8 / *HIMARS Product Improvement Program*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
pace with the evolving threat, Assured Positioning Navigation and Timing (APNT), crew protection, automotive and hardware/ software enhancements, improving operational timelines, leader-follower technology and risk reduction. ***FY 2023 Plans:*** Continues tactical launcher software development, risk reduction, and qualification to support the Fire Control System (FCS) electronic obsolescence mitigation hardware upgrade required to operate a HIMARS launcher. Integrate and test the improved Assured Positioning, Navigation and Timing (APNT) capabilities and satellite communications. Support integration and testing of the High Mobility Artillery Rocket System solutions, to support biennial Survivability Resiliency/Cyber-Electromagnetic (SUREX) activities and the Positioning, Navigation and Training (PNTX) exercise that will support the annual PEO MS-led Multi-Domain Operations test/demonstration event. ***FY 2024 Plans:*** Continues tactical launcher software development, risk reduction, and qualification to support the Fire Control System (FCS) electronic obsolescence mitigation hardware upgrade required to operate a HIMARS launcher. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Decreased funding from FY 2023 to FY 2024 due to the reduction of APNT integration and software development efforts.			
Title: SBIR/STTR Transfer ***Description:*** Funding transferred in accordance with Title 15 USC 638. ***FY 2023 Plans:*** Funding transferred in accordance with Title 15 USC 638. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding transferred in accordance with Title 15 USC 638.	-	0.302	-
Accomplishments/Planned Programs Subtotals	7.073	8.287	4.232

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• C67501: *HIMARS Modifications*	7.192	20.468	76.266	-	76.266	49.485	54.065	54.107	54.163	Continuing	Continuing
• C02901: *High Mobility Artillery Rocket System (HIMARS)*	599.849	155.705	179.230	-	179.230	170.060	131.799	131.976	132.112	0.000	1,500.731

Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 7	**R-1 Program Element (Number/Name)** PE 0603778A / *MLRS Product Improvement Program*	**Project (Number/Name)** DX8 / *HIMARS Product Improvement Program*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost

Remarks

C67501 (Budget Line Item Number 25) and C02091 (Budget Line Item Number 17) are funded in the Missiles Procurement Army appropriation.

D. Acquisition Strategy

The M142 HIMARS Product Improvement Program performs development efforts required to address emerging requirements. Emerging requirements include, but are not limited to, updates to address emerging threats of the launcher organic version 8.x software, reacting to system changes driven by policy and emerging requirements, and maintaining architectural compatibility with other Army ground-based systems reducing sustainability costs. Update software and hardware for communications and munitions to maintain compatibility and operational viability against near-peer adversaries. The HIMARS program is a component of an integrated fires development effort that includes survivability, resiliency, and effectiveness improvements against advanced threats from near-peer adversaries. This effort includes integration with an evolving common fires mission command, common development tools and processes, and annual test and evaluation to provide data to support program assessments and progress toward closure of performance gaps.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army			Date: March 2023
Appropriation/Budget Activity 2040 / 7	R-1 Program Element (Number/Name) PE 0603778A / *MLRS Product Improvement Program*	Project (Number/Name) DX8 / *HIMARS Product Improvement Program*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SBIR/STTR Transfer	Various	Various : Various	-	-		0.302		-		-		-	0.000	0.302	-
		Subtotal	-	-		0.302		-		-		-	0.000	0.302	N/A

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Organic Software Development	MIPR	CCDC AvMC : Redstone Arsenal, AL	25.379	4.549	Apr 2022	3.877	Apr 2023	2.320	Apr 2024	-		2.320	Continuing	Continuing	Continuing
APNT Integration	WR	LMMFC : Grand Prairie, TX	-	1.907	Nov 2021	3.711	Nov 2022	1.507	Nov 2023	-		1.507	Continuing	Continuing	Continuing
		Subtotal	25.379	6.456		7.588		3.827		-		3.827	Continuing	Continuing	N/A

Remarks

Organic (government developed, maintained, and owned) software development includes additional research and development related to Fire Control System electronic obsolescence.

Assured Positioning, Navigation and Timing (APNT) activities includes integration of Global Positioning System (GPS) Anti-Jam, Anti-Spoofing capabilities, and integration of satellite communications.

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test Support	MIPR	Ft Hood, TX, ATEC, APG, MD, WSMR, RTC, RSA : Various	4.686	0.617	Nov 2021	0.397	Nov 2022	0.405	Nov 2023	-		0.405	Continuing	Continuing	Continuing
		Subtotal	4.686	0.617		0.397		0.405		-		0.405	Continuing	Continuing	N/A

Remarks

Test support includes software qualification for the Fire Control System as well as the qualification and testing of the Assured Positioning, Navigation and Timing (APNT) solution.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army			Date: March 2023
Appropriation/Budget Activity 2040 / 7	R-1 Program Element (Number/Name) PE 0603778A / *MLRS Product Improvement Program*	Project (Number/Name) DX8 / *HIMARS Product Improvement Program*	

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	30.065	7.073		8.287		4.232		-		4.232	Continuing	Continuing	N/A

Remarks

APG MD - Aberdeen Proving Ground, Maryland
APNT - Assured Positioning, Navigation and Timing
ATEC - US Army Test and Evaluation Command
AvMC - Aviation and Missile Center
CCDC - Combat Capabilities Development Command
RTC RSA - Redstone Test Center, Redstone Arsenal, Alabama
STORM - Strategic and Operational Rockets and Missiles
WSMR - White Sands Missile Range

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 7	**R-1 Program Element (Number/Name)** PE 0603778A / *MLRS Product Improvement Program*	**Project (Number/Name)** DX8 / *HIMARS Product Improvement Program*

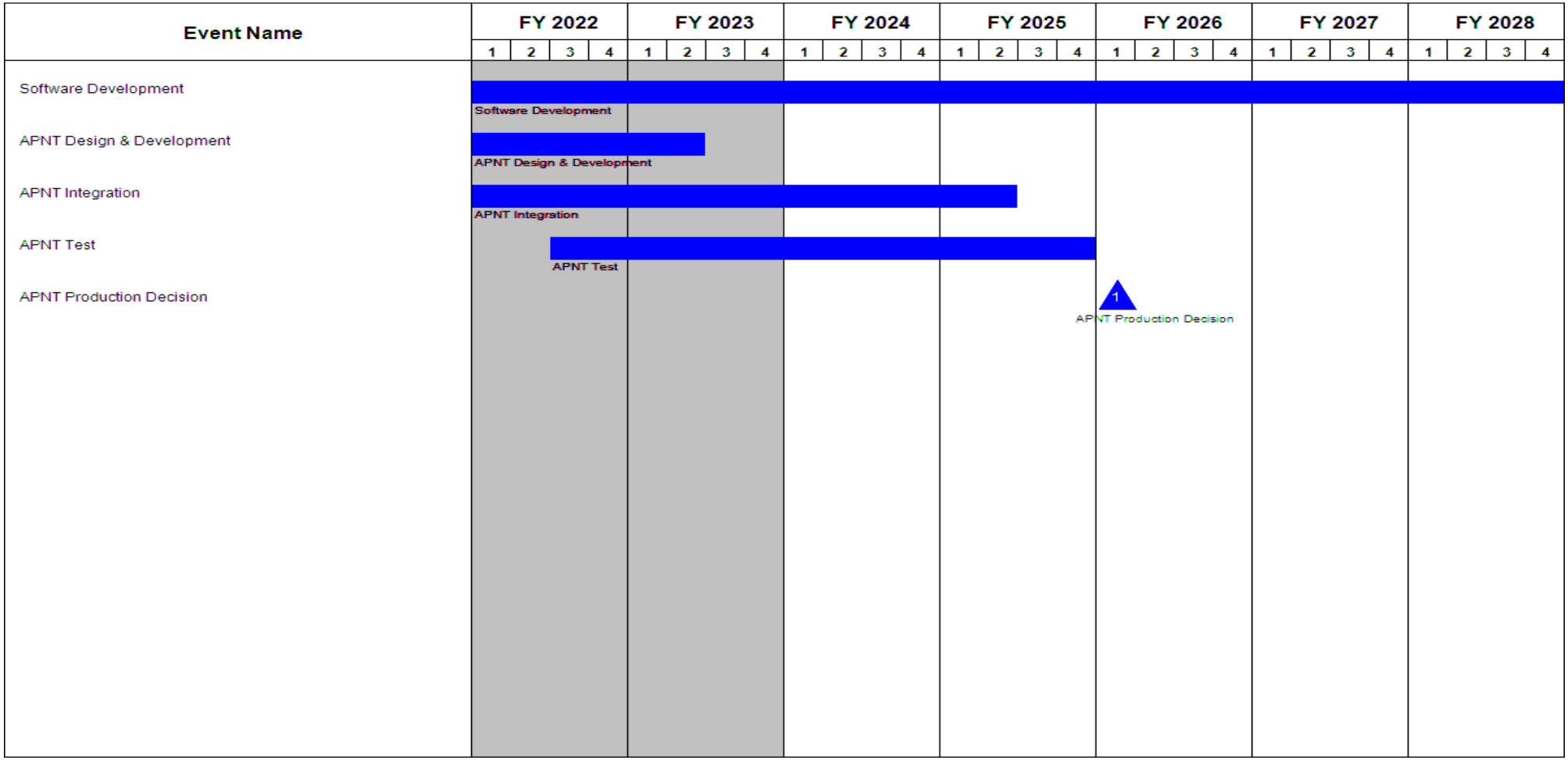

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 7	**R-1 Program Element (Number/Name)** PE 0603778A / *MLRS Product Improvement Program*	**Project (Number/Name)** DX8 / *HIMARS Product Improvement Program*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Software Development	1	2019	4	2028
APNT Design & Development	1	2021	2	2023
APNT Integration	1	2022	2	2025
APNT Test	3	2022	4	2025
APNT Production Decision	1	2026	1	2026