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 0604622A / *FAMILY OF HEAVY 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	-	10.989	10.507	11.950	-	11.950	11.745	16.240	3.085	2.971	0.000	67.487
659: *Family Of Hvy Tac Veh*	-	0.948	0.900	1.979	-	1.979	6.921	13.420	0.000	0.000	0.000	24.168
E50: *TRAILER DEVELOPMENT*	-	5.691	3.850	5.293	-	5.293	0.000	0.000	0.000	0.000	0.000	14.834
VR5: *TWV Protection Kits*	-	4.350	5.757	4.678	-	4.678	4.824	2.820	3.085	2.971	0.000	28.485

A. Mission Description and Budget Item Justification

This Program Element (PE) aligns system development and demonstration of Heavy Tactical Vehicles (HTV) with Future Force requirements to support combat and combat support missions. Missions include the following: line haul, local haul, and unit resupply. HTV trucks transport water, ammunition, and general cargo over all terrain and throughout the battle-space. Systems include the Heavy Expanded Mobility Tactical Truck (HEMTT), Palletized Load System (PLS), Heavy Equipment Transporter System (HETS), Line Haul, Heavy Dump Truck (HDT) as well as Recovery Systems that rescue large wheeled vehicle platforms in severe off-road conditions such as the Modular Catastrophic Recovery System (MCRS). Funding will also be used for developing the Army's next generation of tactical trucks, as part of the Army's Tactical Wheeled Vehicle Modernization Strategy. This Program Element (PE) supports the Family of Heavy Trucks to include, enablers, active safety technologies, and heavy tactical trailer development. Periodic evolutionary upgrade of survivability and crew protection as described in the Long Term Protection Strategy (LTPS) is also supported by this PE for both the HTV family of vehicles and the Family of Medium Tactical Vehicles (FMTV). The Army plans to procure a replacement for the DODX 40000 series tank hauling rail car. The existing fleet will begin mandatory retirement starting in 2031. In order to maintain the current capability of hauling two tanks per rail car and the increased weight of the tank, the Army will be developing a new 150+ ton articulated rail car that is supported by this PE.

FY 2019 Project 659 Base funds in the amount of $1.979 million are for the research and development of a solution to modify the HETS M1070A1 tractor and increase capability to an 85 Ton payload. Funding will also be used for Systems Engineering/Program Management (SEPM) for the Enhanced Heavy Equipment Transporter System (EHETS) to develop contracting documentation, System Engineering Plans (SEP) and Test and Evaluation Master Plans (TEMP). SEPM includes PM and System Engineering 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 2019 Project E50 Base funds in the amount of $5.293 million will be used to build Heavy Dump Truck (HDT) Armor Capable Truck Asset Prototypes and Armor Solution testing. Armor Solution testing costs include system testing, evaluation and document production for the HDT program. Funding will also be used for the research and development of a solution to modify the HETS M1070A1 tractor and increase capability to an 85 Ton payload.

FY 2019 Project VR5 Base funds in the amount of $4.678 million will be used to build Heavy Dump Truck (HDT) Armor Capable Truck Asset Prototypes and Armor Solution testing. Armor Solution testing costs include system testing, evaluation, and document production for the HDT program. Funding will also be used for the Objective Gunner Protection Kit / Common Remotely Operated Weapon Station (OGPK/CROWS) upgrades on Heavy Expanded Mobility Tactical Truck A4 (HEMTTA4)

and Palletized Load System A1 (PLSA1) Suspensions. Live Fire Testing (LFT) will also be conducted on the improvements to the Family of Medium Tactical Vehicles (FMTV) Underbody Armor Kits that are required to support Full Material Release.

The FY 2019 funding request was reduced by $17.983 million to account for the availability of prior year execution balances.

B. Program Change Summary ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Previous President's Budget	11.429	10.507	20.602	-	20.602
Current President's Budget	10.989	10.507	11.950	-	11.950
Total Adjustments	-0.440	0.000	-8.652	-	-8.652
• Congressional General Reductions	-0.005	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.435	-			
• Adjustments to Budget Years	-	-	-8.652	-	-8.652

Change Summary Explanation

FY 2019 has an approximate decrease of 42% ($8.652 million) to the total program element since the FY 2018 President's Budget submission. Funds were ahead of need for the Engineering and Manufacturing Development (EMD) phase activities for the Enhanced Heavy Equipment Transporter System (EHETS). EMD award is planned in FY23.

Exhibit R-2A, RDT&E Project Justification: PB 2019 Army			Date: February 2018
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604622A / *FAMILY OF HEAVY TACTICAL VEHICLES*	Project (Number/Name) 659 / *Family Of Hvy 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
659: *Family Of Hvy Tac Veh*	-	0.948	0.900	1.979	-	1.979	6.921	13.420	0.000	0.000	0.000	24.168
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

The EHETs program is expected to enter at Milestone B after completion of the Analysis of Alternatives (AoA).

A. Mission Description and Budget Item Justification

The Heavy Equipment Transporter System (HETS) is comprised of a M1070A1 Tractor and M1000 Trailer for transport, recovery and evacuation of heavy, oversized combat equipment such as the M1A1 Abrams main battle tank and M88 or similar loads. The current HETS has two capability gaps; Payload and Road Network Accessibility. The HETS is not capable of transporting or loading/unloading the heaviest combat platform in the ABCT since it exceeds the HETS rated payload of 70 tons (U.S.). Road Network Accessibility of the current HETS is restricted due to exceeding axle load limits CONUS/OCONUS, which prevents the HETS from obtaining road permits. Short term is an interim solution to modify current HETS tractors and build new HETS trailers and the long term solution is the Enhanced Heavy Equipment Transporter System (EHETS) that will address these capability gaps in the future.

The current interim solution is in response to a United States Army Europe (USAREUR) Operational Needs Statement (ONS# 17-22207) for Heavy Equipment Transporter Systems with deliveries beginning the first quarter of FY2020. The USAREUR HETS ONS solution shall be capable of carrying 78.5 Tons of payload while achieving host country road permits at a reduced weight of 75 tons. The recommended course of action for satisfying the ONS is to utilize a modified version of the M1070A1 tractor combined with a commercial 8-axle trailer. Per the 1 DEC 17 Army Requirements Oversight Committee (AROC), this trailer will be capable of carrying 85 tons. The AROC also directed an additional modification to the tractor that will allow it to achieve an ultimate carrying capacity of 85 tons.

The Enhanced Heavy Equipment Transporter System (EHETS) is a force protected tractor and trailer to operationally move and load/unload the heaviest combat platform in the ABCT. EHETS will be capable of transporting at a higher rated payload and will self-load/unload heavy and outsized equipment such as the Abrams SEPv2 and SEPv3, which currently exceeds the existing Heavy Equipment Transporter System rated capacity of 70-tons (U.S.), while achieving road network accessibility (e.g. road permits) and mobility on primary and secondary roads.

FY 2019 Project 659 Base funds in the amount of $0.300 million are for Systems Engineering/Program Management (SEPM) for the Enhanced Heavy Equipment Transporter System (EHETS) to develop contracting documentation, Systems Engineering Plans (SEP) and Test and Evaluation Master Plans (TEMP). SEPM includes PM and System Engineering 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 2019 Project 659 Base funds in the amount of $1.679 million are for the research and development of a solution to modify the HETS M1070A1 tractor and increase carrying capacity to 85 tons.

Exhibit R-2A, RDT&E Project Justification: PB 2019 Army		Date: February 2018
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604622A / *FAMILY OF HEAVY TACTICAL VEHICLES*	**Project (Number/Name)** 659 / *Family Of Hvy Tac Veh*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Title: EHETS System Engineer/Program Management Support (SEPM) ***Description:*** SEPM includes PM and System Engineering 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:*** Program Management and Engineering Support ***FY 2019 Base Plans:*** Program Management and Engineering Support to prepare contracting documentation, Systems Engineering Plans (SEP) and Test and Evaluation Master Plans (TEMP). ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Decrease due to core personnel support accounted for from other funding source.	-	0.650	0.300	-	0.300
Title: EHETS Development ***Description:*** Perform Pre-Materiel Development Decision (Pre-MDD) Study ***FY 2018 Plans:*** Engineering, testing, technical reports and analysis ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Decrease due to Pre-Materiel Development Decision (Pre-MDD) Studies completion.	0.300	0.250	-	-	-
Title: USAREUR HETS ONS System Engineer/Program Management Support (SEPM) ***Description:*** SEPM includes PM and System Engineering 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.	0.148	-	-	-	-
Title: USAREUR HETS ONS Design, Test, and Tooling ***Description:*** Design, internal tests and tooling for the USAREUR HETS ONS trailer build at the contractor's facility.	0.500	-	-	-	-
Title: HETS M1070A1 Tractor Modification	-	-	1.679	-	1.679

Exhibit R-2A, RDT&E Project Justification: PB 2019 Army		Date: February 2018
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Description: Modify M1070A1 tractors that are required for the USAREUR HETS ONS to meet an 85 tons capability. ***FY 2019 Base Plans:*** Research and develop a solution to modify the current M1070A1 HETS tractor to ultimately carry an 85 tons payload when paired with the commercial trailer. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Increase due to requirement to develop a M1070A1 HETS tractor modification with 85 tons capability approved at the 1 Dec 2017 Army Requirements Oversight Committee (AROC).					
Accomplishments/Planned Programs Subtotals	0.948	0.900	1.979	-	1.979

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
• DV0012: *HEAVY EQUIPMENT TRANSPORTER SYS*	-	37.398	87.582	76.000	163.582	185.471	21.250	-	-	0.000	407.701
• DA0924: *Modification Of In Svc Equip*	189.456	148.587	78.507	186.377	264.884	80.864	59.713	66.333	71.186	0.000	881.023

Remarks

The EHETS program is expected to enter at Milestone B after completion of the AoA and the approved Capabilities Development Document (CDD). Modification Of in Svc Equip is a shared funding line with other product offices.

D. Acquisition Strategy

The current interim solution for the Heavy Equipment Transporter System (HETS) is in response to a United States Army Europe (USAREUR) Operational Needs Statement (ONS# 17-22207) with deliveries beginning the first quarter of FY 2020. The USAREUR HETS ONS solution shall be capable of carrying 78.5 Tons of payload while achieving host country road permits at a reduced weight of 75 tons. The recommended course of action for satisfying the ONS is to utilize a modified version of the M1070A1 tractor combined with a commercial 8-axle trailer. Per the 1 DEC 17 Army Requirements Oversight Committee (AROC), this trailer will be capable of carrying 85 tons. The AROC also directed an additional modification to the tractor that will allow it to achieve an ultimate carrying capacity of 85 tons.

Based on the outcome of the Analysis of Alternatives (AoA) and Materiel Development Decision (MDD), the Enhanced Heavy Equipment Transporter System (EHETS) is expected to enter at MS B and the acquisition will be a full and open competition. Planned efforts include: Requirements Analysis (FY18), Milestone B, Test plans and RFP documentation preparation (FY19-FY21), RFP release (FY22), and EMD Contract Award (FY23).

Exhibit R-2A, RDT&E Project Justification: PB 2019 Army		Date: February 2018
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E. Performance Metrics

The costs, schedule and technical (performance) requirements are reviewed and compared to the Acquisition Program Baseline (APB) on a regular basis. Meetings are held monthly to review and discuss status of each program. Schedules are monitored by the respective Integrated Product Team (IPT) to oversee and compare progress to APB timelines via an Integrated Master Schedule (IMS) for each program. All technical requirements are tested and confirmed prior to start of production. In addition, each program has the ability to perform added tests during production as required to assure technical requirements are being met. The product office also uses Project Recon to perform risk management. The tool is designed to capture, manage, and link Risks, Issues, and Opportunities in a centralized database to create an integrated model that covers the entire program lifecycle.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Army			Date: February 2018
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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
EHETS - Engineering Testing, Technical Reports and Analysis	MIPR	Defense Technical Information Center (DTIC) : Ft. Belvoir, VA	-	0.300	Dec 2017	0.250	Nov 2017	-		-		-	0.000	0.550	-
HETS M1070A1 Tractor Modification	SS/FP	TBD : TBD	-	-		-		1.679	Mar 2019	-		1.679	0.000	1.679	-
		Subtotal	-	0.300		0.250		1.679		-		1.679	0.000	2.229	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering/ Program Management (SEPM) Support	MIPR	TACOM LCMC : Warren, MI	-	0.148	Mar 2018	0.650	Dec 2017	0.300	Mar 2019	-		0.300	0.000	1.098	-
		Subtotal	-	0.148		0.650		0.300		-		0.300	0.000	1.098	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
USAREUR HETS ONS Design, Internal Tests, Tooling	C/FFP	TBD : TBD	-	0.500	Apr 2018	-		-		-		-	0.000	0.500	-
		Subtotal	-	0.500		-		-		-		-	0.000	0.500	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	-	0.948		0.900		1.979		-		1.979	0.000	3.827	N/A

Remarks

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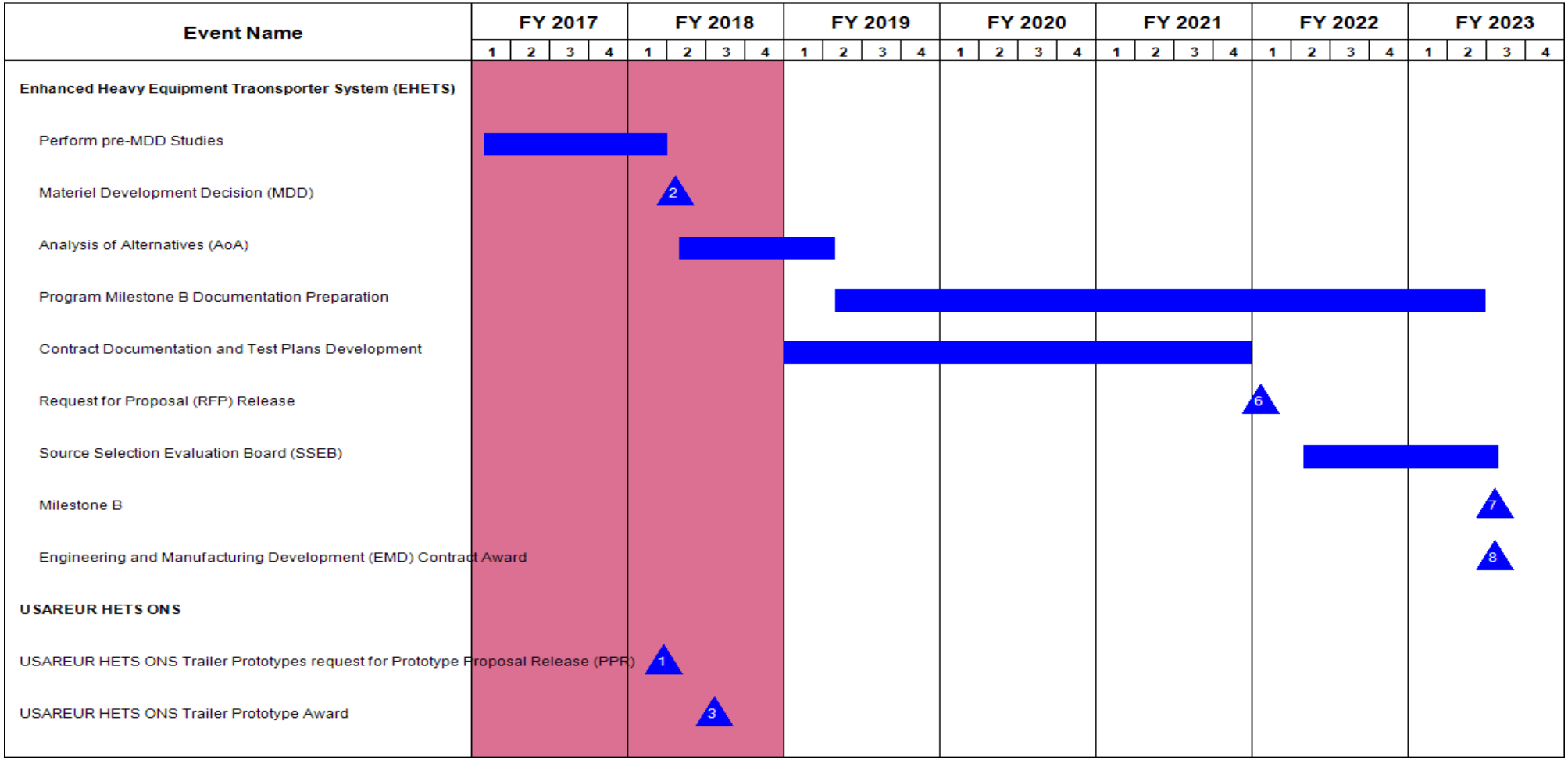

Exhibit R-4, RDT&E Schedule Profile: PB 2019 Army		Date: February 2018
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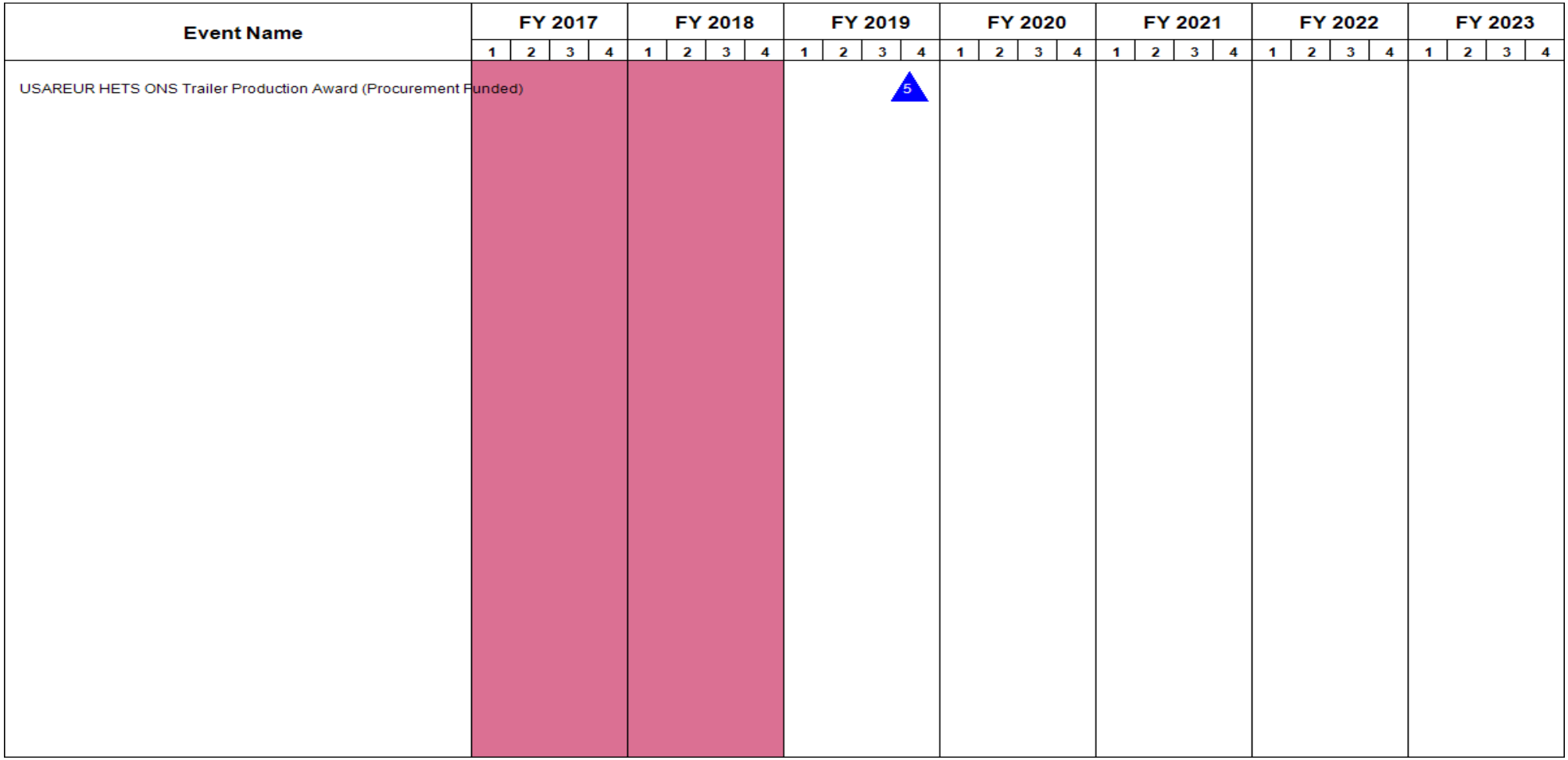

Exhibit R-4A, RDT&E Schedule Details: PB 2019 Army		Date: February 2018
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604622A / *FAMILY OF HEAVY TACTICAL VEHICLES*	**Project (Number/Name)** 659 / *Family Of Hvy Tac Veh*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Enhanced Heavy Equipment Traonsporter System (EHETS)	1	2017	4	2023
Perform pre-MDD Studies	1	2017	1	2018
Materiel Development Decision (MDD)	2	2018	2	2018
Analysis of Alternatives (AoA)	2	2018	2	2019
Program Milestone B Documentation Preparation	2	2019	2	2023
Contract Documentation and Test Plans Development	1	2019	4	2021
Request for Proposal (RFP) Release	1	2022	1	2022
Source Selection Evaluation Board (SSEB)	2	2022	3	2023
Milestone B	3	2023	3	2023
Engineering and Manufacturing Development (EMD) Contract Award	3	2023	3	2023
USAREUR HETS ONS	1	2019	1	2019
USAREUR HETS ONS Trailer Prototypes request for Prototype Proposal Release (PPR)	1	2018	1	2018
USAREUR HETS ONS Trailer Prototype Award	3	2018	3	2018
USAREUR HETS ONS Trailer Production Award (Procurement Funded)	4	2019	4	2019

Exhibit R-2A, RDT&E Project Justification: PB 2019 Army			Date: February 2018
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604622A / *FAMILY OF HEAVY TACTICAL VEHICLES*	Project (Number/Name) E50 / *TRAILER DEVELOPMENT*	

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
E50: *TRAILER DEVELOPMENT*	-	5.691	3.850	5.293	-	5.293	0.000	0.000	0.000	0.000	0.000	14.834
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Semi Trailer Low Bed (STLB) is a 25-ton payload capacity semi-trailer with a fixed goose neck, step deck, and rear loading ramps. The STLB is interoperable with a variety of trucks residing across the U.S. Army equipment and will be introduced into a theater of operations to transport construction equipment (CE) employed by U.S. Army Engineers to execute horizontal and vertical construction projects in support of U.S. Military or other national goals and objectives. The STLB is employed to transport CE, miscellaneous equipment, disabled equipment, Class IV (construction materials), and logistical provisions. The STLB supports units in the execution of the following tasks: expand the lodgment, construction/upgrade/rehabilitation and maintenance of main supply routes (MSR), alternate supply routes (ASR), logistical facilities, bituminous roads, helipads, airfields, landing strips, motor pools, parking areas, etc. These types of facilities are required for sustainment operations during decisive action operations. The STLB will also be used during routine exercises/deployments, disaster relief, and other nation building operations. The STLB will be capable of supporting mobility, counter mobility, survivability, counter improvised and sustainment needs and all applicable North Atlantic Treaty Organization (NATO) interoperability criteria.

The Heavy Equipment Transporter System (HETS) is comprised of a M1070A1 Tractor and M1000 Trailer for transport, recovery and evacuation of heavy, oversized combat equipment such as the M1A1 Abrams main battle tank and M88 or similar loads. The current HETS has two capability gaps; Payload and Road Network Accessibility. The HETS is not capable of transporting or loading/unloading the heaviest combat platform in the ABCT since it exceeds the HETS rated payload of 70 tons (U.S.). Road Network Accessibility of the current HETS is restricted due to exceeding axle load limits CONUS/OCONUS, which prevents the HETS from obtaining road permits. Short term is an interim solution to modify current HETS tractors and build new HETS trailers and the long term solution is the Enhanced Heavy Equipment Transporter System (EHETS) that will address these capability gaps in the future.

The current interim solution is in response to a United States Army Europe (USAREUR) Operational Needs Statement (ONS# 17-22207) for Heavy Equipment Transporter Systems with deliveries beginning the first quarter of FY 2020. The USAREUR HETS ONS solution shall be capable of carrying 78.5 Tons of payload while achieving host country road permits at a reduced weight of 75 tons. The recommended course of action for satisfying the ONS is to utilize a modified version of the M1070A1 tractor combined with a commercial 8-axle trailer. Per the 1 DEC 17 Army Requirements Oversight Committee (AROC), this trailer will be capable of carrying 85 tons. The AROC also directed an additional modification to the tractor that will allow it to achieve an ultimate carrying capacity of 85 tons.

The Enhanced Heavy Equipment Transporter System (EHETS) is a force protected tractor and trailer to operationally move and load/unload the heaviest combat platform in the ABCT. EHETS will be capable of transporting at a higher rated payload and will self-load/unload heavy and outsized equipment such as the Abrams SEPv2 and SEPv3, which currently exceeds the existing Heavy Equipment Transporter System rated capacity of 70-tons (U.S.), while achieving road network accessibility (e.g. road permits) and mobility on primary and secondary roads.

Exhibit R-2A, RDT&E Project Justification: PB 2019 Army		Date: February 2018
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604622A / *FAMILY OF HEAVY TACTICAL VEHICLES*	**Project (Number/Name)** E50 / *TRAILER DEVELOPMENT*

The Heavy Dump Truck (HDT) supports construction projects by loading, transporting and dumping payloads of sand and gravel aggregates, crushed rock, hot asphalt mixes, earth, clay, rubble, large boulders and other materials up to gross vehicle weight rating to job sites under world-wide climatic conditions. The HDT also serves as a quarry truck for the quick transport of bulk raw earth material to and from the crushing, screening and washing plant and the asphalt mixing plant. The HDT also serves as a transportation asset for organizational equipment. The HDT is Long Term Armor Strategy (LTAS) compliant with MRAP 1.1 underbody protection. The armor solution is developed concurrently with the production of armor capable HDTs. Upon development of the armor solution, the Government procures the armored HDT's.

FY 2019 Project E50 Base funds in the amount of $3.793 million will be used to build Heavy Dump Truck (HDT) Armor Capable Truck Asset Prototypes and Armor Solution testing. The HDT integrated armor requirement is compliant with the Tactical Wheeled Vehicle Long Term Armor Strategy (LTAS) Ballistic Specifications. It is required to replace the F5070, M917 and M917A1 HDTs with the oldest fielded variants at 50 years of age.

FY 2019 Project E50 Base funds in the amount of $1.500 million are for the research and development of a solution to modify the HETS M1070A1 tractor and increase carrying capacity to 85 tons.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Title: Bid Sample Testing ***Description:*** Limited performance and reliability testing of trailers. ***FY 2018 Plans:*** This testing is a limited performance and reliability test of free bid sample trailers provided by potential offerors. The test results will be used in the Source Selection Evaluation Board (SSEB) to assist in the down-select. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Decrease with no additional RDTE funded requirements for the 25T trailer or test funds in FY19. The 25T trailer requirement continues with procurement funds.	-	2.740	-	-	-
Title: Source Selection Evaluation Board (SSEB) ***Description:*** Evaluate contractors for an Indefinite Delivery Indefinite Quantity (IDIQ) contract for prototype trailers. ***FY 2018 Plans:*** Conduct SSEB to award IDIQ contract to two contractors for prototype trailers for a run-off test. ***FY 2018 to FY 2019 Increase/Decrease Statement:***	-	0.500	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2019 Army		Date: February 2018
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Decrease with no additional RDTE funded requirements for the 25T trailer or the SSEB in FY19. The 25T trailer requirement continues with procurement funds.					
Title: Systems Engineering/Program Management (SEPM) Support ***Description:*** SEPM includes PM and System Engineering oversight required to conduct requirements analysis, specification development, program management and contractor oversight. Salaries, Benefits, Travel, Personnel Training and other Government costs are included for retaining a professional acquisition workforce. ***FY 2018 Plans:*** Program Management and Engineering Support for 25T ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Decrease with no additional RDTE funded requirements for the 25T trailer in FY19. The 25T trailer requirement continues with procurement funds.	-	0.610	-	-	-
Title: USAREUR HETS ONS Design, Test, and Tooling ***Description:*** Design, internal tests and tooling for the USAREUR HETS ONS trailer build at the contractor's facility.	4.540	-	-	-	-
Title: Trailer Fleet Management Study ***Description:*** Study to determine if the Army's trailer and prime mover fleet is capable of operationally transporting and sustaining the upgraded ABCT of Army 2025.	1.051	-	-	-	-
Title: Trailer Corrosion Study ***Description:*** A corrosion study performed to identify changes to operational movement and sustainment concepts needed to improve the trailer fleet.	0.100	-	-	-	-
Title: HDT Prototypes ***Description:*** Build armor capable Heavy Dump Trucks and 1 armor solution. The armor solution is developed concurrently with the armor capable truck. ***FY 2019 Base Plans:***	-	-	3.793	-	3.793

Exhibit R-2A, RDT&E Project Justification: PB 2019 Army		Date: February 2018
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
The armor solution is developed concurrently with the production of armor capable HDTs. Upon development of the armor solution, the Government procures a total of six (6) armored HDT prototypes. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Increase with contract available to award the armor solution along with truck prototypes in preparation of test.					
Title: HETS M1070A1 Tractor Modification ***Description:*** Modify M1070A1 tractors that were required for the USAREUR HETS ONS to meet an 85 tons capability. ***FY 2019 Base Plans:*** Research and develop a solution to modify the current M1070A1 HETS tractor to ultimately carry an 85 tons payload when paired with the commercial trailer. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Increase due to requirement to develop a M1070A1 HETS tractor modification with 85 ton capability approved at the 1 Dec 2017 Army Requirements Oversight Committee (AROC).	-	-	1.500	-	1.500
Accomplishments/Planned Programs Subtotals	5.691	3.850	5.293	-	5.293

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
• D01650: *SEMITRAILER LOW BED 25 TON*	-	-	1.618	-	1.618	4.621	16.119	16.427	16.642	0.000	55.427
• DV0012: *HEAVY EQUIPMENT TRANSPORTER SYS*	-	37.398	87.582	76.000	163.582	185.471	21.250	-	-	0.000	407.701
• D16001: *TRUCK, DUMP, 20T (CCE)*	3.927	0.967	6.480	-	6.480	24.138	27.639	28.460	-	0.000	91.611

Remarks

D. Acquisition Strategy

The current interim solution for the Heavy Equipment Transporter System (HETS) is in response to a United States Army Europe (USAREUR) Operational Needs Statement (ONS# 17-22207) with deliveries beginning the first quarter of FY 2020. The USAREUR HETS ONS solution shall be capable of carrying 78.5 Tons of payload while achieving host country road permits at a reduced weight of 75 tons. The recommended course of action for satisfying the ONS is to utilize a modified

Exhibit R-2A, RDT&E Project Justification: PB 2019 Army		Date: February 2018
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version of the M1070A1 tractor combined with a commercial 8-axle trailer. Per the 1 DEC 17 Army Requirements Oversight Committee (AROC), this trailer will be capable of carrying 85 tons. The AROC also directed an additional modification to the tractor that will allow it to achieve an ultimate carrying capacity of 85 tons.

The Heavy Dump Truck (HDT) overall strategy includes a contract to one Original Equipment Manufacturer (OEM) to develop an armor solution for a commercial dump truck. The commercial dump truck (capable of being armored) will be produced prior to the development of this armor solution. This armored solution will be tested prior to approval for build to incorporate into the HDT production. The armored HDT will be procured after successful completion of the armor Live Fire Test (LFT) in FY21.

E. Performance Metrics

The costs, schedule and technical (performance) requirements are reviewed and compared to the Acquisition Program Baseline (APB) on a regular basis. Meetings are held monthly to review and discuss status of each program. Schedules are monitored by the respective Integrated Product Team (IPT) to oversee and compare progress to APB timelines via an Integrated Master Schedule (IMS) for each program. All technical requirements are tested and confirmed prior to start of production. In addition, each program has the ability to perform added tests during production as required to assure technical requirements are being met. The product office also uses Project Recon to perform risk management. The tool is designed to capture, manage, and link Risks, Issues, and Opportunities in a centralized database to create an integrated model that covers the entire program lifecycle.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Army			Date: February 2018
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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Heavy Dump Truck (HDT) Prototype Design of Armored Cab	C/IDIQ	TBD : TBD	-	-		-		3.793	Jun 2019	-		3.793	0.000	3.793	-
USAREUR HETS ONS Design, Test, and Tooling	C/TBD	TBD : TBD	-	4.540	Apr 2018	-		-		-		-	0.000	4.540	-
HETS M1070A1 Tractor Modification	C/TBD	TBD : TBD	-	-		-		1.500	Mar 2019	-		1.500	0.000	1.500	-
		Subtotal	-	4.540		-		5.293		-		5.293	0.000	9.833	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering/ Program Management (SEPM)	MIPR	TACOM : Warren, MI	-	-		0.610		-		-		-	0.000	0.610	-
Source Selection Evaluation Board (SSEB)	MIPR	TACOM LCMC : Warren, MI	-	-		0.500		-		-		-	0.000	0.500	-
Trailer Fleet Management Study	C/ FFPLOE	Booz Allen Hamilton : Warren, Michigan	-	1.051	Aug 2017	-		-		-		-	0.000	1.051	-
Trailer Corrosion Study	MIPR	TARDEC : Warren, Michigan	-	0.100	Aug 2017	-		-		-		-	0.000	0.100	-
		Subtotal	-	1.151		1.110		-		-		-	0.000	2.261	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Bid Sample Testing	PO	Army Test and Evaluation	-	-		2.740		-		-		-	0.000	2.740	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Army		Date: February 2018
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Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Command (ATEC) : Aberdeen, MD													
		Subtotal	-	-		2.740		-		-		-	0.000	2.740	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	-	5.691		3.850		5.293		-		5.293	0.000	14.834	N/A

Remarks

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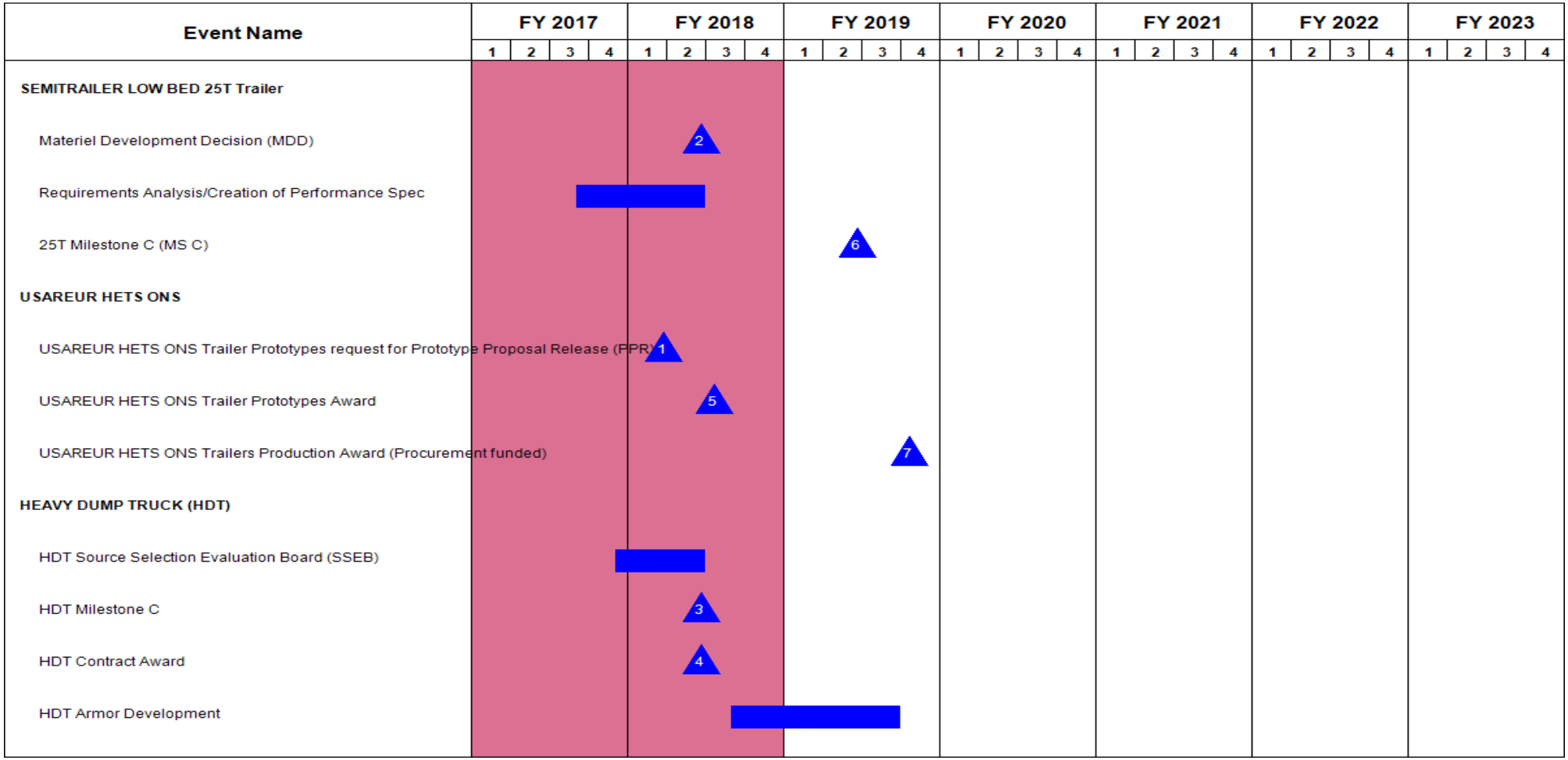

Exhibit R-4, RDT&E Schedule Profile: PB 2019 Army		Date: February 2018
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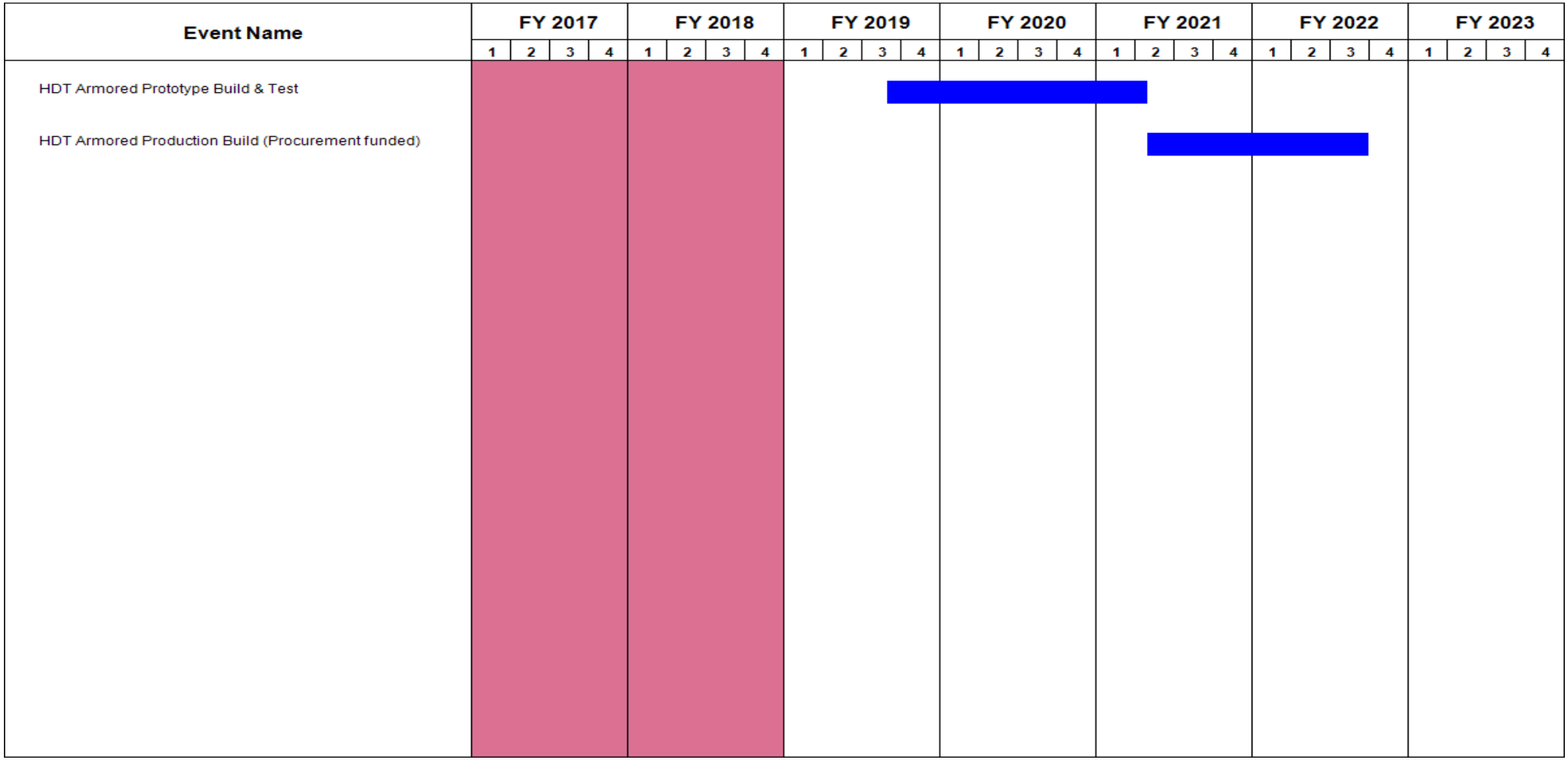

Exhibit R-4A, RDT&E Schedule Details: PB 2019 Army		Date: February 2018
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Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
SEMITRAILER LOW BED 25T Trailer	3	2018	1	2019
Materiel Development Decision (MDD)	2	2018	2	2018
Requirements Analysis/Creation of Performance Spec	3	2017	2	2018
25T Milestone C (MS C)	2	2019	2	2019
USAREUR HETS ONS	1	2018	1	2019
USAREUR HETS ONS Trailer Prototypes request for Prototype Proposal Release (PPR)	1	2018	1	2018
USAREUR HETS ONS Trailer Prototypes Award	3	2018	3	2018
USAREUR HETS ONS Trailers Production Award (Procurement funded)	4	2019	4	2019
HEAVY DUMP TRUCK (HDT)	4	2017	3	2022
HDT Source Selection Evaluation Board (SSEB)	4	2017	2	2018
HDT Milestone C	2	2018	2	2018
HDT Contract Award	2	2018	2	2018
HDT Armor Development	3	2018	3	2019
HDT Armored Prototype Build & Test	3	2019	2	2021
HDT Armored Production Build (Procurement funded)	2	2021	3	2022

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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
VR5: *TWV Protection Kits*	-	4.350	5.757	4.678	-	4.678	4.824	2.820	3.085	2.971	0.000	28.485
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This program element supports periodic, evolutionary upgrade of survivability and crew protection for Heavy Tactical Vehicles (HTV) and Medium Tactical Vehicles (MTV) as described in the Tactical Wheeled Vehicle (TWV) Strategy and individual variants' Capability Production Documents. The upgrades will leverage the Army Technology Objective's (ATO) survivability and Army Research Laboratory's (ARL) research and development activities to develop and evaluate armor kits which increase the protection level of all HTVs to the Mine-Resistant Ambush Protected (MRAP) protection level as well as anticipating changing threat environments, protection gaps, or improving the operating performance, efficiency, and reliability through armor weight reduction. This Program Element (PE) also supports increasing crew protection by leveraging advancements in autonomous ground vehicle technology via development and evaluation of autonomous applique kits that can be applied to the current and future HTV fleet.

The Heavy Dump Truck (HDT) supports construction projects by loading, transporting and dumping payloads of sand and gravel aggregates, crushed rock, hot asphalt mixes, earth, clay, rubble, large boulders and other materials up to gross vehicle weight rating to job sites under world-wide climatic conditions. The HDT also serves as a quarry truck for the quick transport of bulk raw earth material to and from the crushing, screening and washing plant and the asphalt mixing plant. The HDT also serves as a transportation asset for organizational equipment. The HDT is Long Term Armor Strategy (LTAS) compliant with MRAP 1.1 underbody protection. The armor solution is developed concurrently with the production of armor capable HDTs. Upon development of the armor solution, the Government procures the armored HDT's.

The Heavy Equipment Transporter System (HETS) is comprised of a M1070A1 Tractor and M1000 Trailer for transport, recovery and evacuation of heavy, oversized combat equipment such as the M1A1 Abrams main battle tank and M88 or similar loads. The current HETS has two capability gaps; Payload and Road Network Accessibility. The HETS is not capable of transporting or loading/unloading the heaviest combat platform in the ABCT since it exceeds the HETS rated payload of 70 tons (U.S.). Road Network Accessibility of the current HETS is restricted due to exceeding axle load limits CONUS/OCONUS, which prevents the HETS from obtaining road permits. Short term is an interim solution to modify current HETS tractors and build new HETS trailers.

The current interim solution is in response to a United States Army Europe (USAREUR) Operational Needs Statement (ONS# 17-22207) for Heavy Equipment Transporter Systems with deliveries beginning the first quarter of FY2020. The USAREUR HETS ONS solution shall be capable of carrying 78.5 Tons of payload while achieving host country road permits at a reduced weight of 75 tons. The recommended course of action for satisfying the ONS is to utilize a modified version of the M1070A1 tractor combined with a commercial 8-axle trailer. Per the 1 DEC 17 Army Requirements Oversight Committee (AROC), this trailer will be capable of carrying 85 tons. The AROC also directed an additional modification to the tractor that will allow it to achieve an ultimate carrying capacity of 85 tons.

The overall design was enhanced considerably on the Family of Medium Tactical Vehicles (FMTV) Underbody Armor Kit and requires live fire testing to support Full Material Release. The Family of Medium Tactical Vehicles (FMTV) requirement document issued for a Medium Tactical Truck (MTT) with model configuration upgrades

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needed to support required transport capabilities, armor capabilities, and load dimensions. This Acquisition Strategy reduces operation and support costs, displaces vehicles which cannot be armored, and results in a more reliable fleet.

FY 2019 Project VR5 Base funds in the amount of $2.378 million will be used to build two (2) Heavy Dump Truck (HDT) Armor Capable Truck Asset Prototypes and Armor Solution testing. Armor Solution testing costs include system testing, evaluation, and document production for the HDT program. The Government conducts Production Verification Testing (PVT), which includes First Production Vehicle Inspection (FPVI) and Logistics Development on an armor capable HDT, and Reliability, Availability, and Maintainability (RAM) testing. Upon development of the armor solution, the Government procures armored HDT's.

FY 2019 Project VR5 Base funds in the amount of $1.500 million will be used for OGPK/CROWS Weapon Station updates to existing logistic products, as well as hardware development in support of crew served weapons on unarmored and armored trucks. There have been several survivability enhancements that have occurred since the HEMTT and PLS truck production program began. These enhancements did not incorporate measures to correct for automotive performance degradation that has occurred due to the additional mass of the survivability enhancements. Currently the HEMTTA4 and PLSA1 with top, side, underbody, fuel tank and RPG protection; as well as the addition of a weapon station, have overloaded the truck axles. To regain the original design performance and safety factors, new suspension components are required.

FY 2019 Project VR5 Base funds in the amount of $0.800 million will be used for Live Fire Testing of the improvements to the Family of Medium Tactical Vehicles (FMTV) A1P2 Underbody Armor Kit that are required to support Full Material Release.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Title: Heavy Dump Truck (HDT) Armor Development ***Description:*** Develop HDT Armor ***FY 2018 Plans:*** Develop HDT Armor - contractor to design/engineer armor solution ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Decrease with no additional funding requirements in FY19 for development of an armor solution for the HDT. Begin building armored truck prototypes in FY19 in preparation of test.	-	2.134	-	-	-
Title: HEMTTA4/PLSA1 Suspension and Weapon Station Upgrade CROWS ***Description:*** Design new HEMTTA4 and PLSA1 axle and suspension components and integrate protected weapon station. ***FY 2018 Plans:***	0.325	1.273	1.500	-	1.500

Exhibit R-2A, RDT&E Project Justification: PB 2019 Army		Date: February 2018
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Conduct studies, modeling and simulation, and Computer Aided Design (CAD) model and drawing creation, and create bill of materiel. ***FY 2019 Base Plans:*** To regain the original design performance and safety factors, new suspension components are required. The requirement to support crew served weapons on unarmored and armored trucks drives an update to existing logistic products as well as hardware development. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Increase cost working towards a solution to integrate a protected weapon station onto HEMTT/PLS trucks. New suspension components are required.					
Title: HEMTTA4/PLSA1 Suspension and Weapon Station Upgrade - Prototype Axle, Suspension, and Protected Weapon Station ***Description:*** Build prototypes of the new HEMTTA4 /PLSA1 axle, suspension and protected weapon station integration designs. ***FY 2018 Plans:*** Order and receive parts, verify quality and assemble. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Decrease with no further funding requirements in FY19 toward completing efforts of prototype HEMTT/PLS axle, suspension or integration designs.	-	1.000	-	-	-
Title: HEMTTA4/PLSA1 Suspension and Weapon Station Upgrade - Test ***Description:*** Test prototypes of the new HEMTTA4/PLSA1 axle, suspension and protected weapon station. ***FY 2018 Plans:*** Install axles, suspension and protected weapon station. Perform automotive testing. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Decrease with no additional funding requirements in FY19. Prototype testing for suspension is completed.	-	0.500	-	-	-
Title: HEMTTA4/PLSA1 Underbody Armor Kit TDP Conversion - Convert TDP ***Description:*** Convert current TDP into standard TDP format for Government use.	-	0.270	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2019 Army		Date: February 2018
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
FY 2018 Plans: Includes review by Configuration Management Team, revisions to CAD and drawings, and standardization to current requirements. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Decrease with no additional funding requirements in FY19 for the Armor Kits TDP conversion.					
Title: HEMTTA4/PLSA1 Underbody Armor Kit TDP Conversion - Conduct Fit-up ***Description:*** Verification of TDP. ***FY 2018 Plans:*** Conduct virtual installation of kit onto HEMTTA4/PLSA1 truck cabs. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Decrease with no additional funding requirements in FY19 for the Verification of Armor Kit TDP Conversion.	-	0.010	-	-	-
Title: HEMTTA4/PLSA1 Underbody Armor Kit TDP Conversion - Release TDP ***Description:*** Officially release TDP into the TACOM Release System and place under change control. ***FY 2018 Plans:*** Create folder structure and placement of data into Windchill by Configuration Management Team. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Decrease with no additional funding requirements in FY19 for the TDP release.	-	0.020	-	-	-
Title: Systems Engineering/Program Management (SEPM) Support ***Description:*** SEPM includes PM and System Engineering 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:*** Program Management and Engineering Support ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Decrease with no additional SEPM required in FY19 for Weapon Station upgrade activities.	-	0.550	-	-	-
Title: USAREUR HETS ONS Design, Test, and Tooling	1.559	-	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2019 Army		Date: February 2018
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Description: Design, internal tests and tooling for the USAREUR HETS ONS trailer build at the contractor's facility.					
Title: USAREUR HETS ONS Trailer Prototypes ***Description:*** Procure commercial 8-axle trailers to use with modified HETS tractors.	2.466	-	-	-	-
Title: HDT Prototypes ***Description:*** Build armor capable Heavy Dump Trucks and 1 armor solution. The armor solution is developed concurrently with the armor capable truck. ***FY 2019 Base Plans:*** The armor solution is developed concurrently with the production of armor capable HDTs. Upon development of the armor solution, the Government procures six (6) armored HDT. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Increase in FY19 with contract available to award the armor solution along with truck prototypes in preparation of test.	-	-	1.915	-	1.915
Title: HDT Testing ***Description:*** HDT RAM and Performance system testing and evaluation of the armored capable HDT's. Conduct development and operational testing of the armored capable HDT's. ***FY 2019 Base Plans:*** Costs include system testing, evaluation, and document production for the HDT program. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Increase in FY19 to begin testing of the armor solution and HDT prototypes. Testing will continue in FY20.	-	-	0.463	-	0.463
Title: FMTVA1P2 Underbody Armor Kit - Live Fire Testing ***Description:*** Development and testing of improvements to the FMTV Underbody Armor Kit that simplifies the design and reduces installation cost and complexity. ***FY 2019 Base Plans:***	-	-	0.800	-	0.800

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
FY19 funding will be used for Live Fire Testing of the FMTV Underbody Armor Kit improvements to support Full Material Release. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Increase for first year of Live Fire Test of the FMTVA2 underbody armor.					
Accomplishments/Planned Programs Subtotals	4.350	5.757	4.678	-	4.678

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
• D04017: *HEAVY TACTICAL VEHICLE PROTECTION KITS*	108.949	25.124	19.062	30.738	49.800	26.748	52.785	53.179	73.310	0.000	389.895
• D04016: *MEDIUM TACTICAL VEHICLE PROTECTION KITS*	36.756	17.916	19.066	19.262	38.328	19.370	44.562	44.854	23.853	0.000	225.639
• D16001: *Truck, Dump, 20T (CCE) (D16001)*	3.927	0.967	6.480	-	6.480	24.138	27.639	28.460	-	0.000	91.611

Remarks

D. Acquisition Strategy

The Heavy Dump Truck's overall strategy includes a contract to one Original Equipment Manufacturer (OEM) to develop an armor solution for a commercial dump truck. The commercial dump truck (capable of being armored) will be produced prior to the development of this armor solution. This armored solution will be tested prior to approval for build to incorporate to the HDT production. The armored HDT will be procured after successful completion of the armor live fire test in FY21.

The current interim solution for the Heavy Equipment Transporter System (HETS) is in response to a United States Army Europe (USAREUR) Operational Needs Statement (ONS# 17-22207) with deliveries beginning the first quarter of FY 2020. The USAREUR HETS ONS solution shall be capable of carrying 78.5 Tons of payload while achieving host country road permits at a reduced weight of 75 tons. The recommended course of action for satisfying the ONS is to utilize a modified version of the M1070A1 tractor combined with a commercial 8-axle trailer. Per the 1 DEC 17 Army Requirements Oversight Committee (AROC), this trailer will be capable of carrying 85 tons.

Conduct FMTVA1P2 Underbody Armor Kit Live Fire Testing. This effort will utilize Government test facilities.

Design, develop, prototype and test new axle, suspension components, and protected weapon station components. The new components will be tested and approved to be released as a stand-alone kit or revision to the current underbody armor kit (aka C-Kit).

Exhibit R-2A, RDT&E Project Justification: PB 2019 Army		Date: February 2018
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Technical Data Package (TDP) Conversion from Prototype-level to Production-level: Funds will be used to convert and release a Production-level TDP. When complete, the kit can be procured.

E. Performance Metrics

The cost, schedule and technical (performance) requirements are reviewed and compared to the Acquisition Program Baseline (APB) on a regular basis. Meetings are held monthly to review and discuss status of each program. Schedules are monitored by the respective Integrated Product Team (IPT) to oversee and compare progress to APB timelines via an Integrated Master Schedule (IMS) for each program. All technical requirements are tested and confirmed prior to start of production. In addition, each program has the ability to perform added tests during production as required to assure technical requirements are being met. The product office also uses Project Recon to perform risk management. The tool is designed to capture, manage, and link Risks, Issues, and Opportunities in a centralized database to create an integrated model that covers the entire program lifecycle.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Army		Date: February 2018
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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Heavy Dump Truck (HDT) Prototype Design of Armored Cab	C/IDIQ	TBD : TBD	-	-		2.134		1.915	Jun 2019	-		1.915	0.000	4.049	-
HEMTTA4/PLSA1 Suspension and Weapon Station Upgrade	SS/CPFF	Oshkosh : Oshkosh, WI	-	-		1.273		-		-		-	0.000	1.273	-
HEMTTA4/PLSA1 Weapon Station Interface Ring - TDP Update	MIPR	TARDEC : WARREN, MICHIGAN	-	0.130	Nov 2017	-		-		-		-	0.000	0.130	-
HEMTTA4/PLSA1 Suspension and Weapon Station Upgrade - Prototype	SS/CPFF	Oshkosh : Oshkosh, WI	-	-		1.000		-		-		-	0.000	1.000	-
HEMTTA4/PLSA1 Underbody Armor Kit TDP Conversion - Convert TDP	PO	TARDEC : Warren, MI	-	-		0.270		-		-		-	0.000	0.270	-
HEMTTA4/PLSA1 Underbody Armor Kit TDP Conversion - Conduct Fit-up	MIPR	TARDEC : Warren, MI	-	-		0.010		-		-		-	0.000	0.010	-
HEMTTA4/PLSA1 Underbody Armor Kit TDP Conversion - Release TDP	MIPR	TARDEC : Warren, MI	-	-		0.020		-		-		-	0.000	0.020	-
Weapon Station OGPK/ CROWS - STS Task Order	SS/CPFF	Oshkosh : Wisconsin	-	0.326	Jan 2018	-		1.500	Mar 2019	-		1.500	0.000	1.826	-
HETS ONS - Prototypes	C/TBD	TBD : TBD	-	2.691	Feb 2018	-		-		-		-	0.000	2.691	-
		Subtotal	-	3.147		4.707		3.415		-		3.415	0.000	11.269	N/A

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 0604622A / *FAMILY OF HEAVY TACTICAL VEHICLES*	Project (Number/Name) VR5 / *TWV Protection Kits*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering/ Program Management (SEPM)	MIPR	TACOM LCMC : Warren, MI	-	-		0.550		-		-		-	0.000	0.550	-
		Subtotal	-	-		0.550		-		-		-	0.000	0.550	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
HEMTTA4/PLSA1 Suspension and Weapon Station Upgrade - Test	PO	Aberdeen Proving Ground (APG) : Aberdeen, MD	-	-		0.500		-		-		-	0.000	0.500	-
USAREUR HETS ONS Design, Internal Tests, Tooling	MIPR	TARDEC : Warren, MI	-	1.203	Apr 2018	-		-		-		-	0.000	1.203	-
FMTVA1P2 Underbody Armor Kit - Live Fire Testing	MIPR	ATC : Aberdeen	-	-		-		0.800	Apr 2019	-		0.800	0.000	0.800	-
HDT - Armor Solution Testing	MIPR	ATC : Aberdeen	-	-		-		0.463	Dec 2018	-		0.463	0.000	0.463	-
		Subtotal	-	1.203		0.500		1.263		-		1.263	0.000	2.966	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	-	4.350		5.757		4.678		-		4.678	0.000	14.785	N/A

Remarks

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 0604622A / *FAMILY OF HEAVY TACTICAL VEHICLES*	**Project (Number/Name)** VR5 / *TWV Protection Kits*

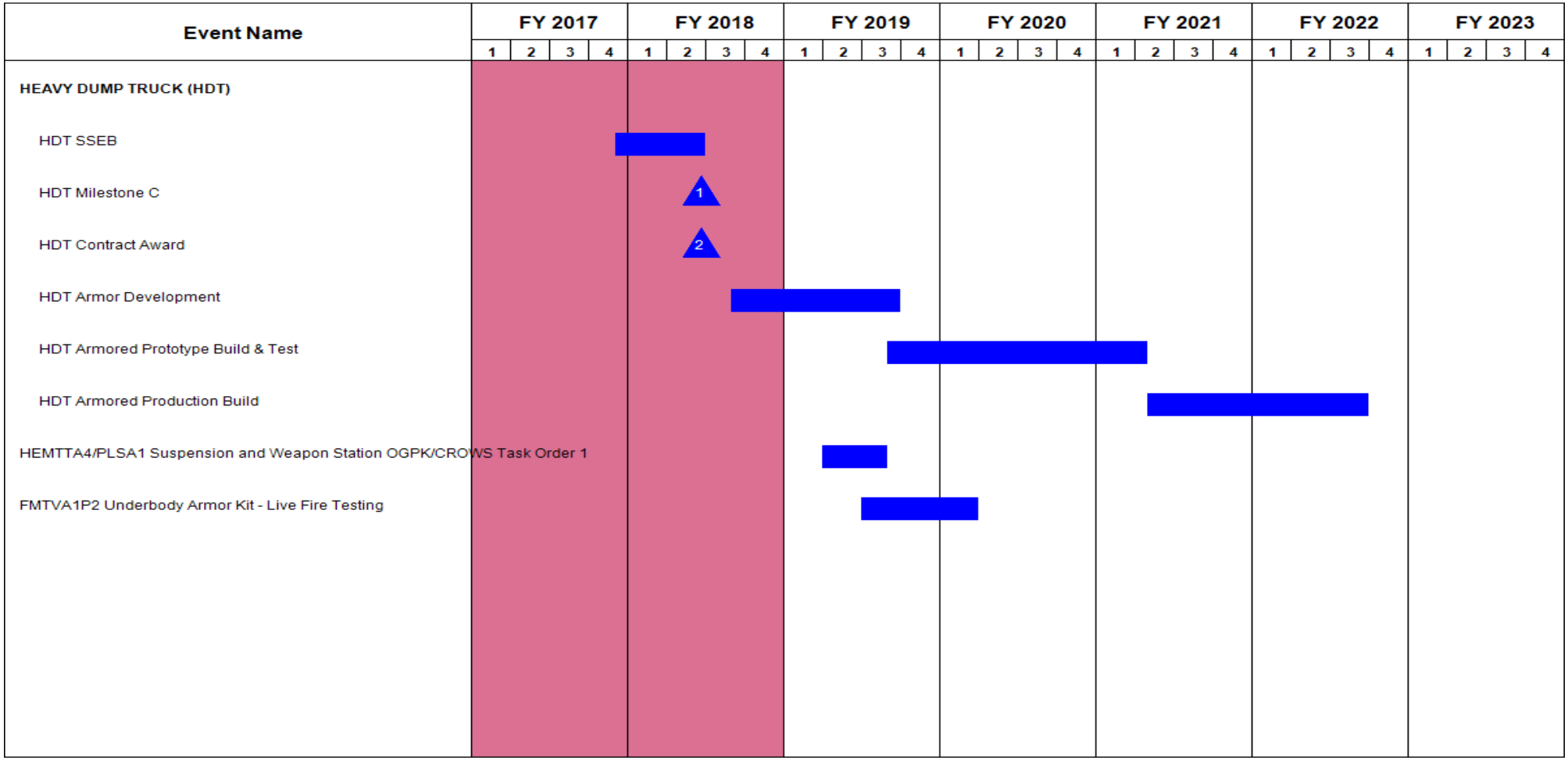

Exhibit R-4A, RDT&E Schedule Details: PB 2019 Army		Date: February 2018
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604622A / *FAMILY OF HEAVY TACTICAL VEHICLES*	**Project (Number/Name)** VR5 / *TWV Protection Kits*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
HEAVY DUMP TRUCK (HDT)	4	2017	3	2022
HDT SSEB	4	2017	2	2018
HDT Milestone C	2	2018	2	2018
HDT Contract Award	2	2018	2	2018
HDT Armor Development	3	2018	3	2019
HDT Armored Prototype Build & Test	3	2019	2	2021
HDT Armored Production Build	2	2021	3	2022
HEMTTA4/PLSA1 Suspension and Weapon Station OGPK/CROWS Task Order 1	2	2019	3	2019
FMTVA1P2 Underbody Armor Kit - Live Fire Testing	3	2019	1	2020