Exhibit R-2, RDT&E Budget Item Justification: PB 2017 Army											Date: February 2016	
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0203735A / *Combat Vehicle Improvement Programs*							
COST ($ in Millions)	**Prior Years**	**FY 2015**	**FY 2016**	**FY 2017 Base**	**FY 2017 OCO**	**FY 2017 Total**	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**	**Cost To Complete**	**Total Cost**
Total Program Element	-	297.423	354.667	316.857	-	316.857	249.464	259.410	235.824	151.345	Continuing	Continuing
330: *Abrams Tank Improve Prog*	-	98.596	77.603	78.452	-	78.452	95.679	108.621	57.829	45.036	Continuing	Continuing
371: *Bradley Improve Prog*	-	73.294	73.775	101.882	-	101.882	73.514	89.118	118.893	67.738	Continuing	Continuing
EE2: *Stryker Improvement*	-	125.533	203.289	136.523	-	136.523	80.271	61.671	59.102	38.571	Continuing	Continuing

Note

PE Number 0203735A/Project EE2 funds the Stryker Engineering Change Proposal (ECP) 1, Stryker Operational Needs Statement (ONS) Lethality and Stryker ECP 2 efforts.

A. Mission Description and Budget Item Justification

The Army has approved engineering change proposals for the Abrams, Bradley and Stryker programs to restore lost platform capability and host inbound technologies.

This Program Element (PE) corrects vehicle deficiencies identified during Army operations; continues technical system upgrades to include the integration of applicable technologies on ground systems; addresses needed evolutionary enhancements to tracked combat vehicles; and develops technology improvements which have application to or insertion opportunities across multiple Ground Combat Systems vehicles. This PE provides combat effectiveness and Operating and Support (O&S) cost reduction enhancements for the Abrams tanks, Bradley Fighting Vehicles and Stryker Family of Vehicles (FOVs) through a series of product improvements.

The strategy for Abrams and Bradley will focus on incrementally delivering capability to the warfighter to meet both near-term limitations as well as mitigating gaps and maintaining combat overmatch in the future. This effort was approved by the Army Acquisition Executive in 3Q FY 2011.

The Abrams M1A2 SEP V2 and M2/M3A3 Bradley Fighting Vehicles are at or exceed Space, Weight, and Power-Cooling (SWaP-C) limitations. In order to host and restore lost platform capability, the Abrams Tank and Bradley Fighting Vehicle programs will execute a series of Engineering Change Proposals (ECPs) to support the current embedded systems and to facilitate integration of technologies currently in development under other existing Programs of Record. The ECPs are not intended to exceed the operational capability outlined in current system requirements documents, but rather to ensure that the existing system performance is not further degraded and that Army mission equipment packages can be integrated on the Abrams and Bradley Platforms.

Stryker Improvement will address the development of Lethality, Survivability, Mobility, and Communication, Command and Control (C3) improvements within the Stryker Family of Vehicles (FoV). Principal development efforts include upgrades associated with the ECP 1, Operational Needs Statement Lethality (ONS), and ECP 2 efforts. ECP 1 power generation, suspension, and network upgrades will both restore Stryker Double-V Hull (DVH) Space, Weight, and Power-Cooling (SWaP-C) lost as a result of incorporating vehicle changes to counter threats encountered during deployment operations while allowing the future network to be hosted without further degradation in vehicle protection and mobility. The Stryker ONS Lethality effort will address an Urgent Operational Need to increase the firepower of Stryker Infantry Carrier Vehicles (ICV) within the US Army European Command (USAREUR). The ONS Lethality effort will integrate a 30mm-equipped weapon station that will provide USAREUR with

Exhibit R-2, RDT&E Budget Item Justification: PB 2017 Army	Date: February 2016
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army I* BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0203735A *I Combat Vehicle Improvement Programs*

precision direct firepower to overwhelm the enemy in encounter actions and suppressive fire to preserve mounted and dismounted freedom of movement. The ECP 2 effort will focus on the integration of lethality upgrades such as a medium caliber weapon, under armor Javelin, and other capabilities that will improve suppressive fire and armored vehicle engagement capabilities across the Army's Stryker Brigade Combat Teams (SBCTs).

B. Program Change Summary ($ in Millions)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Previous President's Budget	297.850	257.167	292.401	-	292.401
Current President's Budget	297.423	354.667	316.857	-	316.857
Total Adjustments	-0.427	97.500	24.456	-	24.456
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	97.500			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-0.427	-	24.456	-	24.456

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2015	FY 2016
Project: EE2: *Stryker Improvement*		
Congressional Add: *Stryker ECP 1 Development (Engineering/Prototypes) Congressional Add*	21.755	-
Congressional Add: *Stryker ECP 1 Testing Congressional Add*	3.918	-
Congressional Add: *Stryker ECP 1 Contractor Support to Test Congressional Add*	3.327	-
Congressional Add: *Stryker Operational Needs Statement Lethality Development (Engineering/Prototypes) Congressional Add*	9.217	60.587
Congressional Add: *Stryker Operational Needs Statement Lethality Testing Congressional Add*	0.238	14.150
Congressional Add: *Stryker Operational Needs Statement Lethality Contractor Support to Test Congressional Add*	-	16.370
Congressional Add: *Stryker Operational Needs Statement Lethality Government Engineering and Project Management Congressional Add*	0.345	6.393
Congressional Add Subtotals for Project: EE2	38.800	97.500
Congressional Add Totals for all Projects	38.800	97.500

Exhibit R-2A, RDT&E Project Justification: PB 2017 Army			Date: February 2016
Appropriation/Budget Activity 2040 / 7	R-1 Program Element (Number/Name) PE 0203735A / *Combat Vehicle Improvement Programs*	Project (Number/Name) 330 / *Abrams Tank Improve Prog*	

COST ($ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
330: *Abrams Tank Improve Prog*	-	98.596	77.603	78.452	-	78.452	95.679	108.621	57.829	45.036	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Army has approved engineering change proposals for the Abrams program to restore lost platform capability and host inbound technologies. The strategy for Abrams will focus on incrementally delivering capability to the warfighter to meet both near-term limitations as well as mitigating gaps and maintaining combat overmatch in the future. This approach was approved by the Army Acquisition Executive in 3Q FY2011.

The Abrams vehicle is at or exceeds Space, Weight, and Power-Cooling (SWaP-C) limitations. In order to host and restore lost platform capability, the Abrams Tank will execute a series of Engineering Change Proposals (ECPs) to support the current embedded systems and to facilitate integration of technologies currently in development under other existing Programs of Record. The ECPs are not intended to exceed the operational capability outlined in current system requirements documents, but rather to ensure that the existing system performance is not further degraded and that Army mission equipment packages can be integrated on the Abrams Platforms. The ECPs will incorporate lost power generation and distribution technologies, force protection and survivability improvements to counter evolving threats to include, but not limited to Active Protection Systems, mitigate obsolescence issues, and incorporate in-bound technologies under development in existing Programs of Record.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
Title: Abrams Engineering Change Proposals (ECP) 1A	72.251	16.943	8.886
Description: The improvements implemented through the Abrams ECP 1A program will restore lost power generation and distribution, mitigate impending obsolescence, and incorporate inbound technologies currently under development in other existing Programs of Record. ***FY 2015 Accomplishments:*** FY2015 efforts consisted of completing prototype builds, component qualification testing, contractor vehicle testing, and initial prototype handoff for government testing. Production contract preparation began. ***FY 2016 Plans:*** A System Verification Review and Production Readiness Review will be held in FY2016. The ECP 1A Technical Data Package (TDP) will be approved in 2Q FY2016 to support a production contract award in late FY2016. United States Government (USG) Production Prove-out Test (PPT) will continue throughout FY2016. Engineering will complete root cause and corrective action work as test incident reports arise. Logistics Support Analysis (LSA), technical manual development/updates, Level of Repair Analysis (LORA), and Source of Repair Analysis (SORA) will continue. Preparation for Next Evolution Armor installation into			

Exhibit R-2A, RDT&E Project Justification: PB 2017 Army		Date: February 2016
Appropriation/Budget Activity 2040 / 7	**R-1 Program Element (Number/Name)** PE 0203735A / *Combat Vehicle Improvement Programs*	**Project (Number/Name)** 330 / *Abrams Tank Improve Prog*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
prototypes for live fire testing will also begin. Engineering will integrate mine blast survivability improvements, support Cross Domain Solution (CDS) testing, update system software, and complete Root Cause & Corrective Action (RCCA) on test failures. ***FY 2017 Plans:*** Engineering will integrate mine blast survivability improvements, support Cross Domain Solution (CDS) testing, update system software, and complete Root Cause & Corrective Action (RCCA) on test failures. Three prototype vehicles will be updated for live fire testing. Production Prove-Out Testing (PPT) will continue throughout FY2017. Logistics products will continue to be developed throughout FY2017.			
Title: Training Device Updates ***Description:*** Development and design of training device upgrades to reflect upgrades to the vehicle. ***FY 2016 Plans:*** Development engineering for Crew Module Unit Recorder (CMUR) Ethernet interface cable for Training Port.	-	0.300	-
Title: Abrams Engineering Change Proposal (ECP) 1B (formerly ECP 2) ***Description:*** The Abrams ECP 1B (formerly ECP 2) program consists mainly of lethality improvements. The primary focus is the integration of 3GEN Forward Looking Infrared (FLIR) and the integration of Ammunition Data Link (ADL) for the Advanced Multi-purpose (AMP) round. Additional improvements to the target acquisition sensors consist of inclusion of color cameras and laser capabilities. Other potential improvements consist of an improved environmental control system, laser warning receiver, and vehicle smoke generation. Trade studies, analysis and technology maturation will be performed to evaluate prospective improvements, along with obsolescence mitigation, and incorporation of inbound technologies currently under development in other existing Programs of Record. ***FY 2016 Plans:*** The development contract award is expected 3Q FY2016. Continue synchronization with Product Managers (PMs) Bradley Fighting Vehicles, Ground Sensors, and Large Caliber Ammunition Systems. Trade studies, analysis, and technology maturation will be performed to evaluate 3GEN Forward Looking Infrared (FLIR) integration and the integration of Ammunition Data Link (ADL) for the Advanced Multi-purpose (AMP) round, and other prospective improvements, i.e. environmental controls, smoke generation and other potential force protection elements. Requirements decomposition and traceability efforts will start in FY2016. ***FY 2017 Plans:*** ECP 1B development engineering efforts will continue with the System Functional Review (SFR) in early FY2017. SFR will be followed by preliminary design activities, ensuring the design and basic system architecture are complete with technical confidence. The Preliminary Design Review will be in 4Q FY17. Abrams will continue to support Ground Sensors with 3GEN	-	23.402	22.523

Exhibit R-2A, RDT&E Project Justification: PB 2017 Army		Date: February 2016
Appropriation/Budget Activity 2040 / 7	**R-1 Program Element (Number/Name)** PE 0203735A / *Combat Vehicle Improvement Programs*	**Project (Number/Name)** 330 / *Abrams Tank Improve Prog*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
Forward Looking Infrared (FLIR) integration engineering. Trade studies, analyses, and technology maturation will be performed to evaluate other potential improvements.			
Title: Survivability Enhancements ***Description:*** PM Abrams will integrate and test survivability, lethality, mobility, reliability, and architecture improvements on the Abrams Family of Vehicles. Force protection and survivability improvements to counter evolving threats to include, but not limited to Active Protective Systems. ***FY 2017 Plans:*** PM Abrams will integrate and test survivability, lethality, mobility, reliability, and architecture improvements on the Abrams Family of Vehicles. Force protection and survivability improvements to counter evolving threats to include, but not limited to Active Protective Systems.	-	-	15.300
Title: Program Management Office (PMO) Support ***Description:*** Program Management Office Support includes Systems Engineering and Government and Contractor salaries, travel and other support costs required to effectively manage the program. ***FY 2015 Accomplishments:*** Continued Government Systems Engineering and Program Management Office Support in FY2015. This included labor, travel, training, supplies and equipment to effectively manage the program. ***FY 2016 Plans:*** Continue Government Systems Engineering and Program Management Office Support in FY2016. This will include labor, travel, training, supplies and equipment to effectively manage the program. ***FY 2017 Plans:*** Continue Government Systems Engineering and Program Management office support in FY2017. This will include labor, training, travel, supplies, and equipment to effectively manage the program.	5.155	10.579	11.179
Title: Test & Evaluation ***Description:*** Test and Evaluation activities includes contractor and government testing, as well as test documentation development. Contractor shakedown/proveout testing will be conducted using U.S. Army test facilities. Government development testing of prototype vehicles will evaluate vehicle performance, to include Reliability, Availability, and Maintainability testing. Early User evaluation will also be performed. Test and evaluation activities also include the testing of other platform inbound	21.190	26.379	20.564

Exhibit R-2A, RDT&E Project Justification: PB 2017 Army		Date: February 2016
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
technologies, along with the development of test documentation to include Test and Evaluation Master Plans, test procedures, and reports. ***FY 2015 Accomplishments:*** Continued Test & Evaluation efforts to support component level test events and planning and development of test documentation. Original Equipment Manufacturer (OEM) testing to include software, mobility, communications, and slope and grade testing were conducted. Firing functionality of the main gun and secondary weapon systems occured at Aberdeen Proving Grounds, MD and Yuma Proving Grounds, AZ. ***FY 2016 Plans:*** Continue Test and Evaluation to support vehicle level test events and planning and development of test documentation. In 1Q FY2016, gun firing and production prove-out testing as well as Automotive/Reliability, Availability and Maintainability (RAM) testing will begin. Electromagnetic Interference/Electromagnetic Compatibility (EMI/EMC) Testing will begin in 3Q FY2016. These test and evaluation events will occur at various test sites (Aberdeen Proving Ground, Yuma Proving Ground, and White Sands Missile Range). ***FY 2017 Plans:*** Continue Test and Evaluation to support vehicle level test events and documentation. Continue production prove-out testing, automotive reliability, availability, and maintainability (RAM) testing, and electromagnetic interface / electromagnetic compatibility (EMI/EMC) testing. Complete gun firing in mid FY2017. In mid FY2017 begin production configuration testing in preparation for live fire testing in FY2018. These test and evaluation events will occur at various sites (Aberdeen Proving Ground, Yuma Proving Ground, and White Sands Missile Range).			
Accomplishments/Planned Programs Subtotals	98.596	77.603	78.452

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
• Abrams Upgrade Program: *Abrams Upgrade Program (GA0750) WTCV*	120.000	-	-	-	-	-	-	-	-	0.000	120.000
• M1 Abrams Tank Mod (GA0700): *M1 Abrams Tank Mod (GA0700) WTCV*	237.023	430.939	480.166	-	480.166	529.924	500.838	501.025	543.353	16,622.398	19,845.666

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2017 Army		Date: February 2016
Appropriation/Budget Activity 2040 / 7	**R-1 Program Element (Number/Name)** PE 0203735A / *Combat Vehicle Improvement Programs*	**Project (Number/Name)** 330 / *Abrams Tank Improve Prog*

D. Acquisition Strategy

Abrams Engineering Change Proposal (ECP) 1A: Research & Development Contract - Sole Source, Cost Plus Incentive Fee (CPIF); ECP 1B - Research & Development Contract - Sole Source, Cost Plus Incentive Fee (CPIF)

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Army			Date: February 2016
Appropriation/Budget Activity 2040 / 7	R-1 Program Element (Number/Name) PE 0203735A / *Combat Vehicle Improvement Programs*	Project (Number/Name) 330 / *Abrams Tank Improve Prog*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Abrams Engineering Change Proposal (ECP) 1A	SS/CPIF	General Dynamics Land Systems : Sterling Heights, MI	240.168	72.251	Mar 2015	16.943	Mar 2016	8.886	Mar 2017	-		8.886	0	338.248	0
ECP 1A Training Device Upgrades	MIPR	PEO, STRI : Orlando, FL	0.000	-		0.300	Mar 2016	-		-		-	0	0.300	0
Abrams (ECP) 1B	SS/CPIF	General Dynamics Land Systems : Sterling Heights, MI	0.000	-		23.402	Jun 2016	22.523	Nov 2016	-		22.523	0	45.925	0
Survivability Enhancements	SS/CPIF	General Dynamics Land Systems : Sterling Heights, MI	0.000	-		-		15.300	Jan 2017	-		15.300	0	15.300	0
		Subtotal	240.168	72.251		40.645		46.709		-		46.709	0.000	399.773	0.000

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Office (PMO)Support	MIPR	PMO Support Offices : Various	51.566	5.155	Jan 2015	10.579	Jan 2016	11.179	Jan 2017	-		11.179	Continuing	Continuing	Continuing
		Subtotal	51.566	5.155		10.579		11.179		-		11.179	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Testing	MIPR	Aberdeen Proving Ground; Yuma Proving Ground; White Sands Missile Range, : Various	12.324	2.516	Jan 2015	15.253	Jan 2016	11.423	Jan 2017	-		11.423	Continuing	Continuing	Continuing
Contractor Testing	Various	Various : Various	0.000	18.674	Mar 2015	11.126	Mar 2016	9.141	Mar 2017	-		9.141	0	38.941	0
		Subtotal	12.324	21.190		26.379		20.564		-		20.564	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Army			Date: February 2016
Appropriation/Budget Activity 2040 / 7	R-1 Program Element (Number/Name) PE 0203735A / *Combat Vehicle Improvement Programs*	Project (Number/Name) 330 / *Abrams Tank Improve Prog*	

	Prior Years	FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	304.058	98.596		77.603		78.452		-		78.452	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2017 Army		Date: February 2016
Appropriation/Budget Activity 2040 / 7	**R-1 Program Element (Number/Name)** PE 0203735A / *Combat Vehicle Improvement Programs*	**Project (Number/Name)** 330 / *Abrams Tank Improve Prog*

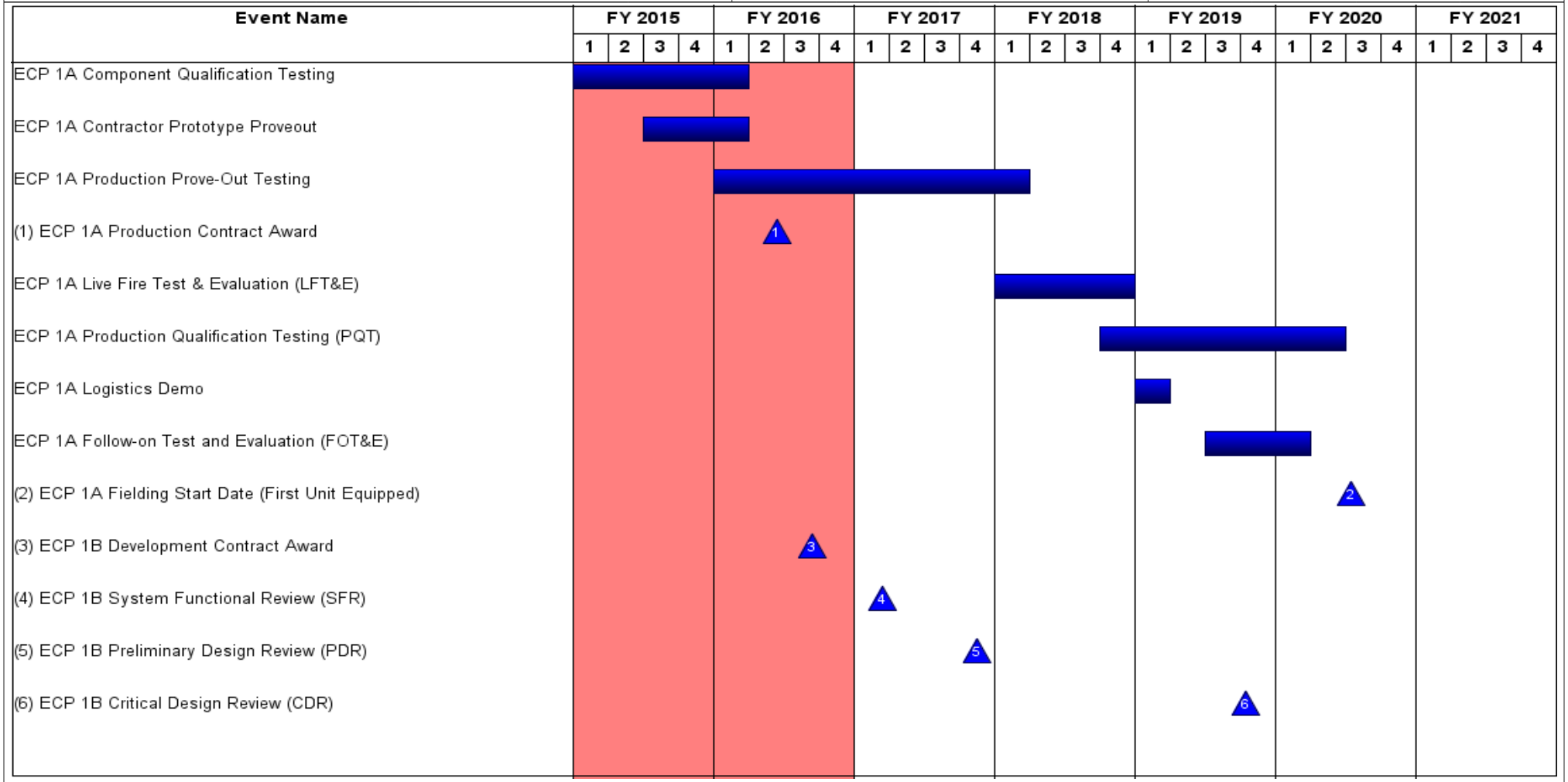

Exhibit R-4A, RDT&E Schedule Details: PB 2017 Army		Date: February 2016
Appropriation/Budget Activity 2040 / 7	**R-1 Program Element (Number/Name)** PE 0203735A / *Combat Vehicle Improvement Programs*	**Project (Number/Name)** 330 / *Abrams Tank Improve Prog*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
ECP 1A Component Qualification Testing	4	2014	1	2016
ECP 1A Contractor Prototype Proveout	3	2015	1	2016
ECP 1A Production Prove-Out Testing	1	2016	1	2018
ECP 1A Production Contract Award	2	2016	2	2016
ECP 1A Live Fire Test & Evaluation (LFT&E)	1	2018	4	2018
ECP 1A Production Qualification Testing (PQT)	4	2018	2	2020
ECP 1A Logistics Demo	1	2019	1	2019
ECP 1A Follow-on Test and Evaluation (FOT&E)	3	2019	1	2020
ECP 1A Fielding Start Date (First Unit Equipped)	3	2020	3	2020
ECP 1B Development Contract Award	3	2016	3	2016
ECP 1B System Functional Review (SFR)	1	2017	1	2017
ECP 1B Preliminary Design Review (PDR)	4	2017	4	2017
ECP 1B Critical Design Review (CDR)	4	2019	4	2019

Exhibit R-2A, RDT&E Project Justification: PB 2017 Army			Date: February 2016
Appropriation/Budget Activity 2040 / 7	R-1 Program Element (Number/Name) PE 0203735A / *Combat Vehicle Improvement Programs*	Project (Number/Name) 371 / *Bradley Improve Prog*	

COST ($ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
371: *Bradley Improve Prog*	-	73.294	73.775	101.882	-	101.882	73.514	89.118	118.893	67.738	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The M2/M3A3 Bradley Fighting Vehicle is at or exceeds Space, Weight, and Power-Cooling (SWAP-C) limitations. To restore lost platform capability and to host other Army Existing Programs of Record, the Bradley Fighting Vehicle program shall execute a series of Engineering Change Proposals (ECPs). ECP 1 improves vehicle's track and suspension while ECP 2 improves the power train and electrical system to enable the A3 fleet to host inbound technologies from Army Program of Records, including continued SINCGARS integration and Handheld Manpack Small (HMS) Radios and Joint Battle Command – Platform (JBC-P). The ECPs are not intended to exceed the operational capability outlined in current system requirement documents, but rather to ensure that the existing system performance is not further degraded and that Army mission equipment packages can be integrated on the Bradley platform. ECP 2 development effort will lead to a production start in FY 2017. The Bradley M2A4 Vehicle is the combination of the M2A3 Base Vehicle with ECP 1 and ECP 2 components installed and integrated. A separate integration effort begins in FY 2017 for an underbelly armor kit for improved survivability against blast threats. Additionally, a follow on Engineering change proposal to ECP2, ECP 2B integrates Third Generation Forward Looking Infrared (3G FLIR) to replace the current FLIR for increased lethality through improved target acquisition capability along with other technology upgrades and insertions (i.e. laser pointing, color camera, laser range finder, vehicle generated smoke, Vehicular Integration for Command, Control, Communication, Computers, Intelligence, Surveillance and, Reconnaissance/Electronic Warfare (C4ISR/EW) Interoperability (VICTORY) architecture compliance, Environmental Control System, etc). Product Manager Bradley will initiate a Non Development Initiative (NDI) to develop force protection and survivability improvements to counter evolving threats to include, but not limited to Active Protection System. Begins ECP3 analysis to build a program plan that acquires full buy back of all IFV approved requirements using common technologies with other Army investments.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
Title: Bradley Engineering Change Proposal (ECP) Program	55.571	31.675	41.726
Description: The Bradley Fighting Vehicle System (BFVS) improvements implemented through the Engineering Change Proposal (ECP) Program will focus on restoring lost platform capability to support Army inbound technologies and to facilitate integration of technologies currently in development under other existing Programs of Record.			
FY 2015 Accomplishments: Built ECP 2 prototypes and began contractor component & qualification testing, Combat Simulation Integration Lab (CSIL), Vehicle Test Integration Lab (VTIL) test efforts and vehicle level system integration testing. Began Production Qualification Test (PQT) planning, new equipment training and obtaining equipment for government test.			
FY 2016 Plans: Contractor developmental testing continues throughout FY 2016 in various locations. Government developmental testing begins in 2Q FY 2016 at Yuma Proving Ground (YPG) and Aberdeen Proving Ground (APG) test sites. Software Qualification Testing			

Exhibit R-2A, RDT&E Project Justification: PB 2017 Army		Date: February 2016
Appropriation/Budget Activity 2040 / 7	**R-1 Program Element (Number/Name)** PE 0203735A / *Combat Vehicle Improvement Programs*	**Project (Number/Name)** 371 / *Bradley Improve Prog*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
(SQT) takes place in 2Q FY 2016. Suitability evaluations will incorporate analysis of Manpower and Personnel Integration (MANPRINT) domains and Logistics Development as part of Integrated Product Support (IPS) elements will be driven by the Live Fire (LF) Analysis that occurs throughout FY 2016. Engineering will complete root cause and corrective action work as test incident reports arise. ***FY 2017 Plans:*** Continue system level testing at Government test sites and Contractor facilities. Complete final technical data package for delivery to the Government in preparation for production contract award in mid FY 2017. Continue delivery of logistics support documentation and execute Logistics Demonstration at the contractor's facility.			
Title: Bradley Improvements ***Description:*** Continues Third Generation Forward Looking Infrared (3G FLIR) and other necessary technology integration efforts. The Bradley Family of Vehicles (BFV) will integrate underbelly armor for improved survivability against underbelly blast events. ***FY 2015 Accomplishments:*** Contract development efforts and program planning for ECP 2B (lethality improvements). ***FY 2016 Plans:*** Contract development efforts will continue on ECP 2B (lethality improvements). Contract award is expected in late FY 2016. Continue synchronization with Product Managers (PDMs) Main Battle Tank Systems (MBTS), and Ground Sensors. Trade studies/analysis will be performed to evaluate 3G FLIR integration and other potential improvements, i.e. laser pointing, color camera, laser range finder, vehicle generated smoke, Vehicular Integration for Command, Control, Communication, Computers, Intelligence, Surveillance and, Reconnaissance/Electronic Warfare (C4ISR/EW) Interoperability (VICTORY) architecture compliance, Environmental Control System, etc. Requirements decomposition and traceability efforts will be started in FY 2016. ***FY 2017 Plans:*** Continue developmental engineering effort for all of the technologies that are a part of ECP 2B to include the 3G FLIR integration into the Bradley Commander's Independant Viewer (CIV) and Improved Bradley Acquisition System (IBAS), laser pointing, laser range finder, vehicle generated smoke, environmental control system, commander's independent weapon station, rear view sensor system, laser warning receiver, and laser protection. Complete System Functionality Review and continue working toward Preliminary Design Review (PDR). Coordinate commonality and synchronization with PDM Main Battle Tank Systems, PM Ground Sensors, PM Close Combat Weapon Systems, and the ECP 2B Prime Contractor. Underbelly Interim Solution (UBIS) effort begins in FY 2017 with Design and Development contract award which will work with an industry partner to develop an underbelly contingency kit designed to enhance the BFV force protection and vehicle survivability. Major development activities include systems requirements and functional review approval and the start of Concept Design which is to undergo Modeling and Simulation analysis and evaluation to support a PDR in early FY 2018. Also, Logistics Support for UBIS will begin the	1.363	13.773	15.129

Exhibit R-2A, RDT&E Project Justification: PB 2017 Army		Date: February 2016
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
development of the Maintenance Allocation Chart (MAC) and provisioning plan. Begin ECP3 analysis to build a program plan that acquires full buy back of all IFV approved requirements using common technologies with other Army investments.			
Title: Survivability Enhancements ***Description:*** Initiate a Non Development Initiative (NDI) in order to develop force protection and survivability improvements to counter evolving threats to include, but not limited to Active Protection System in FY 2017. ***FY 2017 Plans:*** Initiate a Non Development Initiative (NDI) in order to develop force protection and survivability improvements to counter evolving threats to include, but not limited to Active Protection System in FY 2017.	-	-	15.300
Title: Program Management Office (PMO) Support ***Description:*** Program Management Office Support includes Systems Engineering, Government and Contractor salaries, travel, training and other support costs required to effectively manage the program. ***FY 2015 Accomplishments:*** Continued Government Systems Engineering and Program Management Office Support in FY 2015. This included labor, travel, training, supplies, equipment and facilities to effectively manage the program. ***FY 2016 Plans:*** Continue Government Systems Engineering and Program Management Office Support in FY 2016. This will include labor, travel, training, supplies, equipment and facilities to effectively manage the program. ***FY 2017 Plans:*** Government Program Management and System Engineering support costs. These funds cover the costs of Government and direct support Contractor salaries, travel, training, supplies, equipment and facilities to manage the issues resulting from ECP 2 testing and develop ECP 2 logistics products, execution of the initial award and engineering phases of ECP 2b, execute UBIS development activities and support ECP3 analysis.	11.766	9.787	10.137
Title: Test & Evaluation ***Description:*** ECP 2 Test & Evaluation efforts support system sub-system test events and planning and development of test documentation. ***FY 2015 Accomplishments:*** ECP 2 Test & Evaluation efforts supported system sub-system test events and planning and development of test documentation. Continued component qualification testing. Begin contractor vehicle testing and Government evaluation of contractor testing.	4.594	18.540	19.590

Exhibit R-2A, RDT&E Project Justification: PB 2017 Army		Date: February 2016
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
Began contractor component & qualification testing, Combat Simulation Integration Lab (CSIL), Vehicle Test Integration Lab (VTIL) test efforts and vehicle level system integration testing. Began Production Qualification Test (PQT) planning, new equipment training and obtaining equipment for government test. ***FY 2016 Plans:*** ECP2 Test and Evaluation to support vehicle level test events and planning and development of test documentation. Contractor developmental testing continues throughout FY 2016 in various contractor locations. Government developmental testing begins in 3Q FY 2016. Automotive/Reliability, Availability and Maintainability (RAM) testing will begin as well as automotive performance testing to ensure ECP 2 components do not degrade the current Bradley performance. These test and evaluation events will occur at various test sites (Aberdeen Proving Ground, Yuma Proving Ground, and White Sands Missile Range). Software Qualification Testing (SQT) takes place in 2Q FY 2016. ***FY 2017 Plans:*** Continue execution of ECP 2 testing in accordance with the OSD approved Bradley ECP Test and Evaluation Master Plan (TEMP). This includes performance and RAM testing of 5 vehicles at Yuma Test Center, 4 vehicles at Aberdeen Test Center, and 1 vehicle performing electromagnetic effects testing and nuclear testing at White Sands Missile Range (WSMR). The TEMP also requires Cybersecurity testing on two of these prototype ECP 2 vehicles, and Live Fire testing on one vehicle at Aberdeen Test Center through FY 2018. Also planned is testing at Cold Regions Test Center in Alaska that will begin in 4th quarter FY 2017 and finish in FY 2018. Conduct Log Demo. Final Live Fire testing on production vehicles will be completed in FY 2019.			
Accomplishments/Planned Programs Subtotals	73.294	73.775	101.882

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
• GZ2400: *Bradley Program (MOD)*	136.006	210.042	276.433	-	276.433	496.556	482.020	427.534	495.780	5,030.314	7,554.685

Remarks

D. Acquisition Strategy

Product Manager Bradley will execute a series of Engineering Change Proposals (ECP) reestablishing Space, Weight, Power and Cooling (SWAP-C) to facilitate integration of technologies being developed under existing Programs of Record (POR). The proposed ECPs will restore lost capability, without exceeding operational envelopes outlined in current approved requirement documents. ECP 1 production contract awarded in FY 2014, and began fielding in FY 2015. ECP 2 is scheduled to begin fielding in FY 2019 to address powerpack and electrical power upgrades, which will enable the vehicle to host Army directed inbound technologies with no further performance degradation to the vehicle. ECP 2 development has been executed on a sole source cost plus incentive fee contract to the current platform Original Equipment Manufacturer. Initiate studies and analysis in order to integrate Third Generation Forward Looking Infrared (3G FLIR) sights begins in FY 2016. The 3G FLIR

Exhibit R-2A, RDT&E Project Justification: PB 2017 Army		Date: February 2016
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(ECP 2B) system will be developed by Project Manager, Terrestrial Sensors (PM TS) and be provided to Product Manager Bradley as a Horizontal Technology Insertion effort. ECP2B will be a Sole Source to OEM awarded in FY 2016. Initiate development contract for Underbelly Armor Kit development will be awarded in FY 2017. Product Manager Bradley will initiate a Non Development Initiative (NDI) in order to develop force protection and survivability improvements to counter evolving threats to include, but not limited to Active Protection System in FY 2017. ECP3 planning will include building a program plan to address the full IFV approval requirements set in FY 2017.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Army			Date: February 2016
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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Bradley Modernization Program	SS/CPIF	PMO : Warren	79.009	-		-		-		-		-	0	79.009	0
Non Recurring Engineering-ECP2	SS/FFP	L3COM : Muskegon, MI	13.630	1.030	Apr 2015	1.030	Apr 2016	1.276	Apr 2017	-		1.276	Continuing	Continuing	Continuing
Non Recurring Engineering-ECP2	SS/CPIF	BAE : Sterling Heights, MI	113.395	54.541	Apr 2015	30.645	Jan 2016	40.450	Nov 2016	-		40.450	Continuing	Continuing	Continuing
Bradley Improvement Integration - ECP2B	SS/CPIF	BAE : Sterling Heights, MI	0.000	1.363	Jun 2015	13.591	Jun 2016	13.055	Nov 2016	-		13.055	Continuing	Continuing	Continuing
Bradley Improvement Integration - Underbelly Armor	SS/CPIF	TBD : TBD	0.000	-		0.182	Jan 2016	1.048	Jun 2017	-		1.048	Continuing	Continuing	Continuing
Bradley Improvement Integration - ECP 3	SS/CPIF	PMO Warren/ TARDEC/OGA's : TBD	0.000	-		-		1.026	Jan 2017	-		1.026	Continuing	Continuing	Continuing
Survivability Enhancements	SS/CPIF	TBD : TBD	0.000	-		-		15.300	Jan 2017	-		15.300	Continuing	Continuing	Continuing
		Subtotal	206.034	56.934		45.448		72.155		-		72.155	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PMO/PEO Support/OGA	MIPR	PMO/PEO : Bradley ECP Program	14.501	6.340	Dec 2014	3.564	Dec 2015	3.455	Dec 2016	-		3.455	Continuing	Continuing	Continuing
Government Engineering Support	MIPR	Various : Bradley ECP Program	27.259	5.426	Dec 2014	6.223	Dec 2015	6.682	Dec 2016	-		6.682	Continuing	Continuing	Continuing
		Subtotal	41.760	11.766		9.787		10.137		-		10.137	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Army		Date: February 2016
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Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Testing	MIPR	Various : Test Sites	4.572	1.244	May 2015	15.089	May 2016	17.569	Jan 2017	-		17.569	Continuing	Continuing	Continuing
Contractor Testing	SS/CPIF	BAE : Various	2.455	3.350	Apr 2015	3.451	Jan 2016	2.021	Nov 2016	-		2.021	Continuing	Continuing	Continuing
		Subtotal	7.027	4.594		18.540		19.590		-		19.590	-	-	-

	Prior Years	FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	254.821	73.294		73.775		101.882		-		101.882	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2017 Army		Date: February 2016
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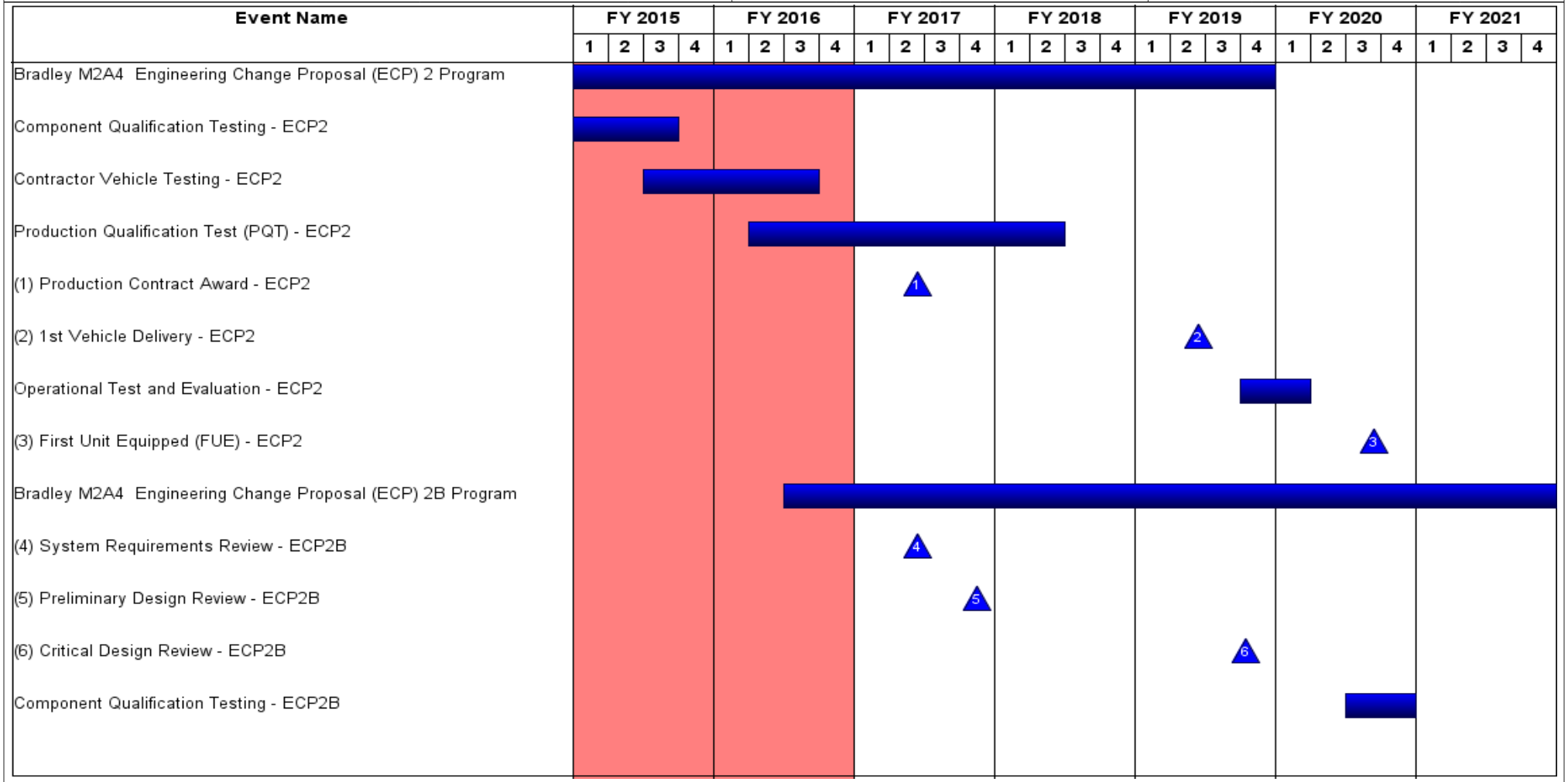

Exhibit R-4, RDT&E Schedule Profile: PB 2017 Army		Date: February 2016
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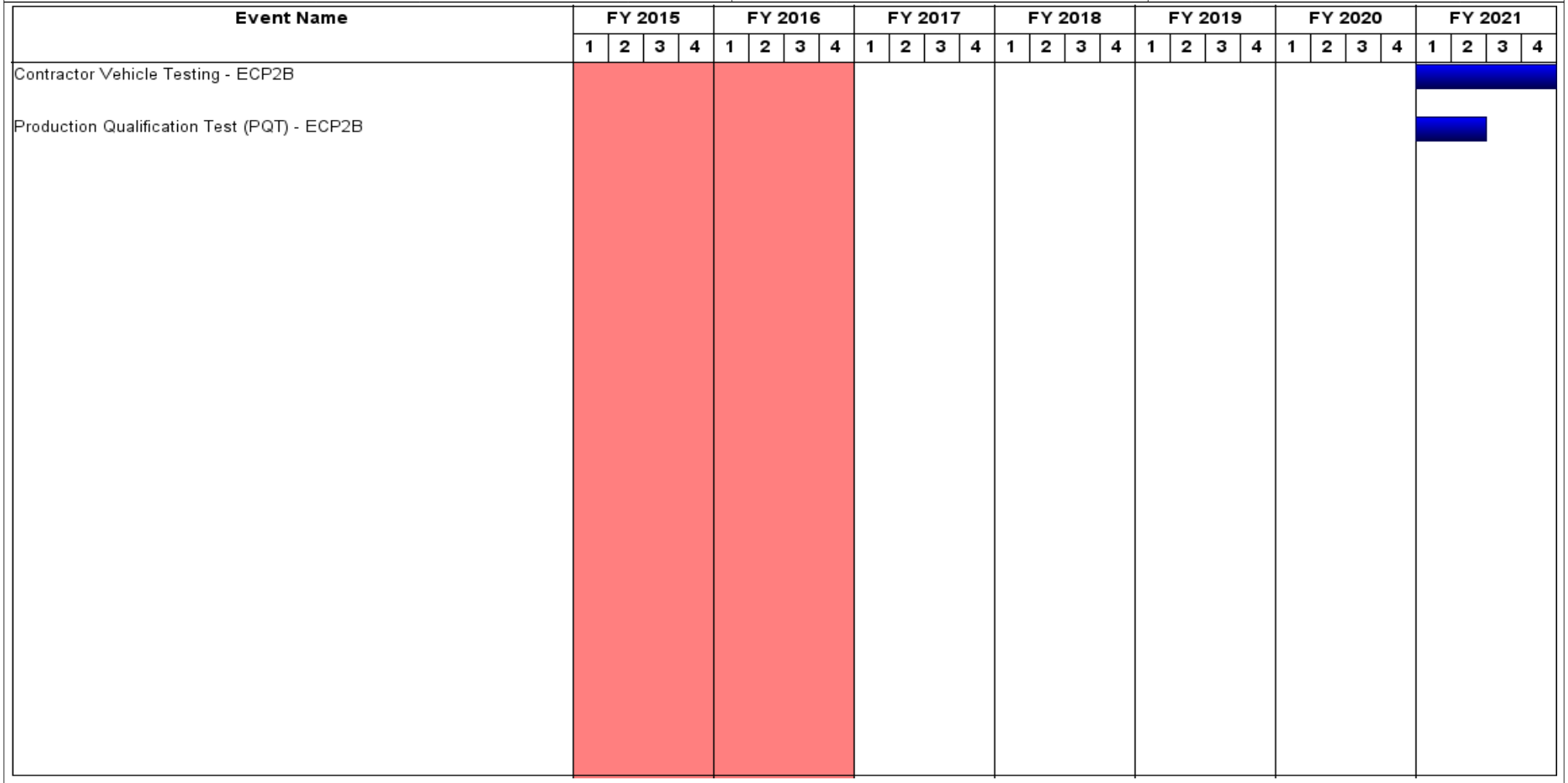

Exhibit R-4A, RDT&E Schedule Details: PB 2017 Army		Date: February 2016
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Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Bradley M2A4 Engineering Change Proposal (ECP) 2 Program	1	2012	4	2019
Component Qualification Testing - ECP2	3	2014	3	2015
Contractor Vehicle Testing - ECP2	3	2015	3	2016
Production Qualification Test (PQT) - ECP2	2	2016	2	2018
Production Contract Award - ECP2	2	2017	2	2017
1st Vehicle Delivery - ECP2	2	2019	2	2019
Operational Test and Evaluation - ECP2	4	2019	1	2020
First Unit Equipped (FUE) - ECP2	3	2020	3	2020
Bradley M2A4 Engineering Change Proposal (ECP) 2B Program	3	2016	3	2025
System Requirements Review - ECP2B	2	2017	2	2017
Preliminary Design Review - ECP2B	4	2017	4	2017
Critical Design Review - ECP2B	4	2019	4	2019
Component Qualification Testing - ECP2B	3	2020	4	2020
Contractor Vehicle Testing - ECP2B	1	2021	4	2021
Production Qualification Test (PQT) - ECP2B	1	2021	2	2021

Exhibit R-2A, RDT&E Project Justification: PB 2017 Army			Date: February 2016
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COST ($ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
EE2: *Stryker Improvement*	-	125.533	203.289	136.523	-	136.523	80.271	61.671	59.102	38.571	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

PE Number 0203735A/Project EE2 funds the Stryker Engineering Change Proposal (ECP) 1, Stryker Operational Needs Statement Lethality (ONS), Stryker Survivability Enhancements, and Stryker Engineering Change Proposal (ECP) 2 efforts.

A. Mission Description and Budget Item Justification

Funding supports the development of Lethality, Survivability, Mobility, and Communication, Command and Control (C3) improvements within the Stryker Family of Vehicles (FoV). Principal development efforts include upgrades associated with the ECP 1, Operational Needs Statement Lethality (ONS), Stryker Survivability Enhancements and ECP 2 efforts. ECP 1 power generation, suspension, and network upgrades will both restore Stryker Double-V Hull (DVH) Space, Weight, and Power-Cooling (SWaP-C) lost as a result of incorporating vehicle changes to counter threats encountered during deployment operations while allowing the future network to be hosted without further degradation in vehicle protection and mobility. The Stryker ONS Lethality effort will address an Urgent Operational Need to increase the firepower of Stryker Infantry Carrier Vehicles (ICV) within the US Army European Command (USAREUR). The ONS Lethality effort will integrate a 30mm-equipped weapon station that will provide USAREUR with precision direct firepower to overwhelm the enemy in encounter actions and suppressive fire to preserve mounted and dismounted freedom of movement. The Stryker Survivability Enhancement will address evolving threats by assessing survivability improvements to include passive and active protection systems. The ECP 2 effort will focus on the integration of lethality upgrades (i.e. medium caliber weapon and under armor Javelin), obsolescence, optics improvements and network lethality enhancements.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
Title: Stryker ECP 1 Development (Engineering/Prototypes)	68.367	65.276	14.913
Description: Funding is provided for the following effort			
FY 2015 Accomplishments: Development engineering for the Stryker ECP 1 upgrades, to include Technical Data Package (TDP) change development and processing, creation of manufacturing Bill of Materials (BOM), procurement of prototype material, and initiation of prototype builds.			
FY 2016 Plans: Continuing ECP 1 development engineering efforts, to include prototype build completion, development and validation of Stryker Operator and Maintenance Manuals, and provisioning of ECP 1 unique parts.			
FY 2017 Plans:			

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
Continuing ECP 1 engineering efforts, to include finalization of In-Vehicle Network (IVN) design, development and validation of revisions to Stryker Operator and Maintenance Manuals, provisioning of ECP 1 unique parts, and incorporating ECP 1 design changes resulting from deficiencies identified during prototype build and developmental testing.			
Title: Stryker ECP 1 Training Device Updates ***Description:*** Funding is provided for the following effort ***FY 2017 Plans:*** Development of updates to Stryker training devices resulting from ECP 1 engine, alternator, suspension, and network design changes.	-	-	5.980
Title: Stryker ECP 1 Testing ***Description:*** Funding is provided for the following effort ***FY 2015 Accomplishments:*** Safety, automotive performance, Communication, Command and Control (C3), and environmental testing of prototypes. ***FY 2016 Plans:*** Test execution activities for the Stryker ECP 1 upgrade technologies, including tests for safety and human factors, automotive performance, Communications, Command, and Control (C3), environmental, and Live Fire testing. These tests include full-up system level live fire, reliability and maintainability, environmental performance, automotive performance and electronics testing. These events will be conducted at various test sites throughout the US including Aberdeen Proving Ground (APG), Yuma Proving Ground (YPG), Cold Regions Test Center (CRTC), Tropic Regions Test Center (TRTC), Electronic Proving Ground (EPG) and White Sands Missile Range (WSMR). ***FY 2017 Plans:*** Continue test execution activities for the Stryker ECP 1 upgrade technologies, including tests for Communications, Command, and Control (C3), reliability and maintainability, electronics and information assurance testing. These events will be conducted at various test sites throughout the US including Aberdeen Proving Ground (APG), Yuma Proving Ground (YPG), Electronic Proving Ground (EPG) and White Sands Missile Range (WSMR).	2.227	24.963	11.048
Title: Stryker ECP 1 Contractor Support to Test ***Description:*** Funding is provided for the following effort ***FY 2015 Accomplishments:***	11.563	10.534	3.255

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
Contractor technical support (system troubleshooting, maintenance and repair of prototypes during execution of tests) to ECP 1 developmental test. ***FY 2016 Plans:*** Continue Contractor technical support (system troubleshooting, maintenance and repair of prototypes during execution of tests) to ECP 1 developmental test. ***FY 2017 Plans:*** Continue Contractor technical support (system troubleshooting, maintenance and repair of prototypes during execution of tests) to ECP 1 developmental test.			
Title: Stryker Operational Needs Statement Lethality Development (Engineering/Prototypes) ***Description:*** Funding is provided for the following effort ***FY 2017 Plans:*** Development engineering of the Stryker Operational Needs Statement Lethality upgrade, to include conduct of system design reviews, Bill of Material (BOM) finalization, assembly and delivery of prototypes, development and validation of the Operator's Manual and provisioning of Operational Needs Statement Lethality unique parts.	-	-	17.967
Title: Stryker Operational Needs Statement Lethality Testing ***Description:*** Funding is provided for the following effort ***FY 2017 Plans:*** Developmental test execution activities for the Stryker Operational Needs Statement Lethality upgrade, to include safety and performance, full-up system live fire, reliability and maintainability and electronics and information assurance testing.	-	-	18.665
Title: Stryker Operational Needs Statement Lethality Contractor Support to Test ***Description:*** Funding is procided for the following effort ***FY 2017 Plans:*** Contractor support to Operational Needs Statement Lethality upgrade testing, to include system troubleshooting, maintenance, repair of prototypes during execution of tests, and Failure Analysis and Corrective Action Reporting (FACAR).	-	-	11.547
Title: Survivability Enhancements ***Description:*** Funding is provided for the following effort ***FY 2017 Plans:***	-	-	14.400

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
Assessment of force protection and survivability improvements, to include passive and active protection systems.			
Title: Stryker Engineering Change Proposal (ECP) 2 Development ***Description:*** Funding is provided for the following effort ***FY 2017 Plans:*** Developmental engineering of the Engineering Change Proposal (ECP) 2 upgrade to include lethality upgrades (i.e. medium caliber weapon and under armor Javelin), obsolescence, optics improvements and network lethality enhancements.	-	-	19.088
Title: Government Engineering and Project Management ***Description:*** Funding is provided for the following effort ***FY 2015 Accomplishments:*** Continued Government Systems Engineering and Program Management support (labor, travel, training, supplies, and equipment) to support ECP1 development. ***FY 2016 Plans:*** Continuing Government Systems Engineering and Program Management support (labor, travel, training, supplies, and equipment) to support ECP1 development. ***FY 2017 Plans:*** Continuing Government Systems Engineering and Program Management support (labor, travel, training, supplies, and equipment) to support ECP 1, ONS Lethality, Survivability Enhancements, and ECP 2 development efforts. Includes execution of ECP 2 trade study, cost-benefit analysis, and Source Selection Evaluation Board (SSEB).	4.576	5.016	19.660
Accomplishments/Planned Programs Subtotals	86.733	105.789	136.523

	FY 2015	FY 2016
Congressional Add: Stryker ECP 1 Development (Engineering/Prototypes) Congressional Add ***FY 2015 Accomplishments:*** Build of 3 additional prototypes necessary to accelerate ECP 1 development to support the integration of ECP 1 upgrades into the production of the 4th Double V Hull (DVH) equipped Stryker brigade.	21.755	-
Congressional Add: Stryker ECP 1 Testing Congressional Add	3.918	-

Exhibit R-2A, RDT&E Project Justification: PB 2017 Army		Date: February 2016
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	FY 2015	FY 2016
FY 2015 Accomplishments: Safety, automotive performance, Communication, Command and Control (C3) and environmental testing of 3 additional prototypes purchased to accelerate ECP 1 development to support the integration of ECP 1 upgrades into the production of the 4th Double V Hull (DVH)-equipped Stryker brigade.		
Congressional Add: Stryker ECP 1 Contractor Support to Test Congressional Add ***FY 2015 Accomplishments:*** Contractor technical support (system troubleshooting, maintenance and repair of prototypes during execution of tests) to support developmental test of 3 additional prototypes purchased to accelerate ECP 1 development to support the integration of ECP 1 upgrades into the production of the 4th Double V Hull (DVH)-equipped Stryker brigade.	3.327	-
Congressional Add: Stryker Operational Needs Statement Lethality Development (Engineering/Prototypes) Congressional Add ***FY 2015 Accomplishments:*** Initiation of the development engineering for the Stryker Operational Needs Statement Lethality upgrade, to include the conduct of sub-system design reviews, selection of the turret and weapon system and purchase of prototype hardware. ***FY 2016 Plans:*** Development engineering of the Stryker Operational Needs Statement Lethality upgrade, to include conduct of system design reviews, completion of purchase of prototype material, initial preparation of the source vehicles and initiation of Operator Manual development.	9.217	60.587
Congressional Add: Stryker Operational Needs Statement Lethality Testing Congressional Add ***FY 2015 Accomplishments:*** Developmental test planning activities for the Stryker Operational Needs Statement Lethality upgrade. ***FY 2016 Plans:*** Developmental test activities for the Stryker Operational Needs Statement Lethality upgrade, to include weapon and ammunition qualification and purchase of associated test consumables for the remainder of test.	0.238	14.150
Congressional Add: Stryker Operational Needs Statement Lethality Contractor Support to Test Congressional Add ***FY 2016 Plans:*** Contractor support of the weapon qualification tests and definition and build of the Contractor test support package for the Operational Needs Statement Lethality upgrade.	-	16.370
Congressional Add: Stryker Operational Needs Statement Lethality Government Engineering and Project Management Congressional Add	0.345	6.393

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	FY 2015	FY 2016
FY 2015 Accomplishments: Government Systems Engineering and Program Management support (labor, travel, training, supplies, and equipment) to support Operational Needs Statement Lethality development. ***FY 2016 Plans:*** Continuing Government Systems Engineering and Program Management support (labor, travel, training, supplies, and equipment) to support Operational Needs Statement Lethality development.		
Congressional Adds Subtotals	38.800	97.500

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
• Stryker Vehicle: *Stryker Vehicle (G85100)*	435.110	177.345	71.680	-	71.680	-	-	-	-	150.621	834.756
• Stryker Modification: *Stryker Modification (GM0100)*	39.683	388.385	74.348	-	74.348	93.924	458.523	549.852	614.553	4,754.240	6,973.508
• Stryker Upgrade: *Stryker Upgrade (G85200)*	-	412.043	444.561	-	444.561	475.443	84.629	25.065	-	0	1,441.741

Remarks

AAE approval for a 3rd DVH SBCT Bridgade of 337 Exchange Vehicles was given on July 26, 2013 (funded in G85100). Army System Acquisition Review Council (ASARC) production decision planned for 3rd quarter FY2016 will provide approval to begin 4th Brigade Double-V Hull (DVH) Engineering Change Proposal 1 production, which will be funded in Stryker Upgrade (G85200). Stryker MOD (GM0100) is for Stryker Fleet modifications to include Operational Needs Statement Lethality production and fielding in FY16-18 and Engineering Change Proposal 1 retrofits in FY19-21.

D. Acquisition Strategy

The Stryker Engineering Change Proposal (ECP) 1 effort will buy back the vehicle space, weight, and power margin lost due to the addition of numerous kits in response to eleven years of war (20-combat rotations & 37+ million total miles), in order to allow integration of the future network (as directed by VCSA in August 2011) without further degrading the performance of the platform. In May 2012, Stryker ECP 1 program (Phase I) was approved, permitting preliminary design and integration efforts on both the Flat Bottom (FB) and Double-V Hull (DVH) variants. In March 2013, Phase II approved upgrading the mechanical power, electrical power generation, chassis upgrades and the in-vehicle network for the DVH vehicles. Based on additional testing conducted in the summer of 2013, the decision was made to focus ECP efforts on the DVH and defer efforts on flat bottom Strykers. ECP 1 Phase II contract, awarded November 25, 2013, continues development engineering, prototype build test and evaluation. The Production decision (Phase III) will determine the production requirements of the technologies selected in Phase II.

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On 2 July 2015, ASARC authorization was granted to execute the Stryker Operational Needs Statement Lethality effort. Non-Recurring Engineering (NRE), to include prototype builds and technical support to USG testing will be awarded as a sole-source, Cost Plus Fixed-Fee (CPFF) contract, with the prime contractor executing a source selection for the 30mm weapon station solution. A Firm Fixed Price (FFP) production/retrofit contract is targeted for an award in 3rd quarter FY2016.

The ECP 2 effort will focus on the integration of lethality upgrades such as a medium caliber weapon, under armor Javelin, and other capabilities that will improve suppressive fire and armored vehicle engagement capabilities across the Army's Stryker Brigade Combat Teams (SBCTs). In FY17, integration of an under armor Javelin capability will be initiated, along with a Trade Study and Cost-Benefit Analysis focused on medium caliber weapon system, and other lethality improvements (to support a 4th quarter FY2017 Engineering and Manufacturing Development (EMD) decision). A competitive EMD contract is targeted for award in 1st quarter FY2018 with USG developmental test initiated upon successful 4th quarter FY2018 Test Readiness Review. A production Knowledge Point decision is targeted for 3rd quarter FY2020.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Army			Date: February 2016
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Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Stryker Operational Needs Statement Engineering and Project Management	MIPR	Sterling Heights, MI : Various	0.000	0.345	Oct 2014	6.393	Jan 2016	6.521	Oct 2016	-		6.521	0	13.259	0
Project Management Office (PMO)	RO	TACOM, MI : Various	0.000	4.576	Oct 2014	5.016	Oct 2015	13.139	Oct 2016	-		13.139	Continuing	Continuing	0
		Subtotal	0.000	4.921		11.409		19.660		-		19.660	-	-	0.000

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Stryker ECP 1 Development	SS/CPFF	GDLS, MI : Various	0.000	90.122	Oct 2014	65.276	Oct 2015	14.913	Oct 2016	-		14.913	Continuing	Continuing	0
Stryker ECP 1 Training Device Updates	MIPR	PEO STRI, FL : Various	0.000	-		-		5.980	Mar 2017	-		5.980	Continuing	Continuing	0
Stryker ONS Lethality Development	SS/CPFF	GDLS, MI : Various	0.000	9.217	Sep 2015	60.587	Jan 2016	17.967	Oct 2016	-		17.967	0	87.771	0
Stryker ECP 2 Development	SS/CPIF	GDLS, MI : Various	0.000	-		-		19.088	Nov 2016	-		19.088	0	19.088	0
Survivability Enhancements	Various	GDLS : Sterling Heights, MI	0.000	-		-		14.400	Oct 2016	-		14.400	0	14.400	0
		Subtotal	0.000	99.339		125.863		72.348		-		72.348	-	-	0.000

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Stryker ECP 1 Testing	Various	Various Test Centers, Multiple : Various	0.000	6.145	Dec 2014	24.963	Dec 2015	11.048	Dec 2016	-		11.048	0	42.156	0
Stryker ECP 1 Contractor Support to Test	SS/CPFF	GDLS, MI : Various	0.000	14.890	Oct 2014	10.534	Feb 2016	3.255	Oct 2016	-		3.255	0	28.679	0

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Army			Date: February 2016
Appropriation/Budget Activity 2040 / 7	R-1 Program Element (Number/Name) PE 0203735A / *Combat Vehicle Improvement Programs*	Project (Number/Name) EE2 / *Stryker Improvement*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Stryker ONS Lethality Test	SS/CPFF	Various : Test Centers	0.000	0.238	Oct 2015	14.150	Feb 2016	18.665	Oct 2016	-		18.665	0	33.053	0
Stryker ONS Lethality Contractor Support to Test	SS/CPFF	GDLS, MI : Various	0.000	-		16.370	Jan 2016	11.547	Oct 2016	-		11.547	0	27.917	0
		Subtotal	0.000	21.273		66.017		44.515		-		44.515	0.000	131.805	0.000

	Prior Years	FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	125.533		203.289		136.523		-		136.523	-	-	0.000

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2017 Army		Date: February 2016
Appropriation/Budget Activity 2040 / 7	**R-1 Program Element (Number/Name)** PE 0203735A / *Combat Vehicle Improvement Programs*	**Project (Number/Name)** EE2 / *Stryker Improvement*

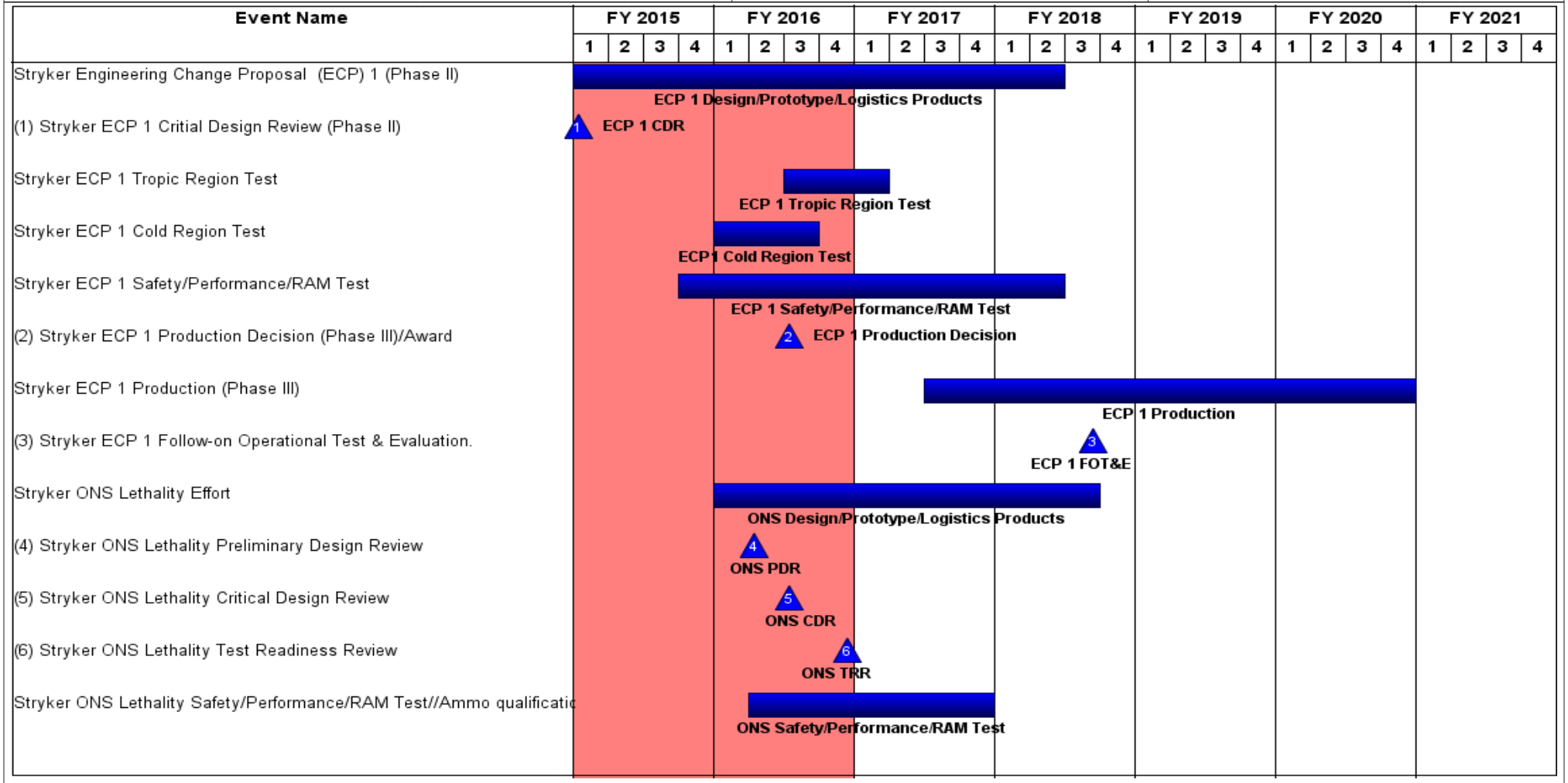

Exhibit R-4, RDT&E Schedule Profile: PB 2017 Army		Date: February 2016
Appropriation/Budget Activity 2040 / 7	**R-1 Program Element (Number/Name)** PE 0203735A / *Combat Vehicle Improvement Programs*	**Project (Number/Name)** EE2 / *Stryker Improvement*

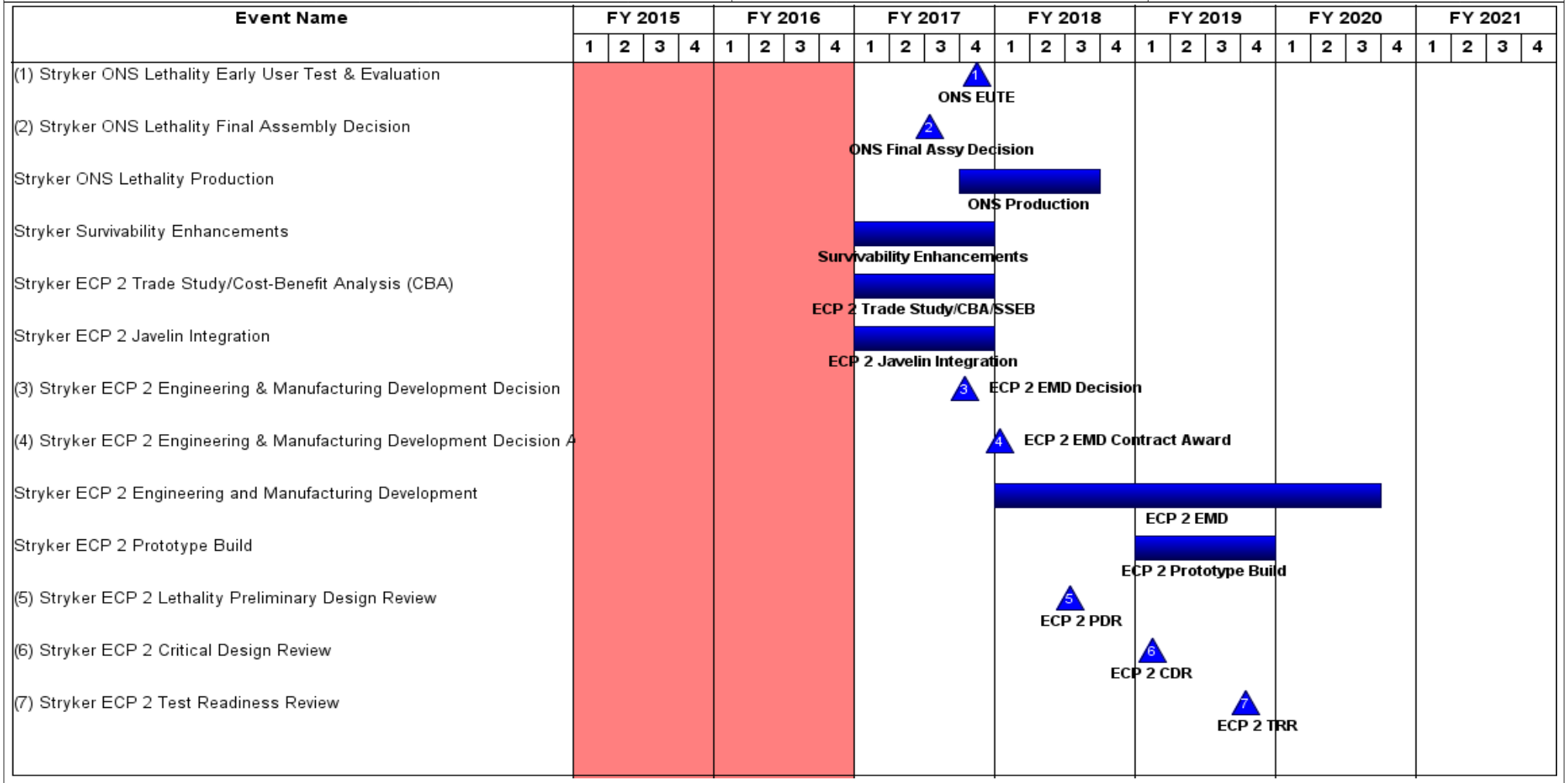

Exhibit R-4, RDT&E Schedule Profile: PB 2017 Army		Date: February 2016
Appropriation/Budget Activity 2040 / 7	**R-1 Program Element (Number/Name)** PE 0203735A / *Combat Vehicle Improvement Programs*	**Project (Number/Name)** EE2 / *Stryker Improvement*

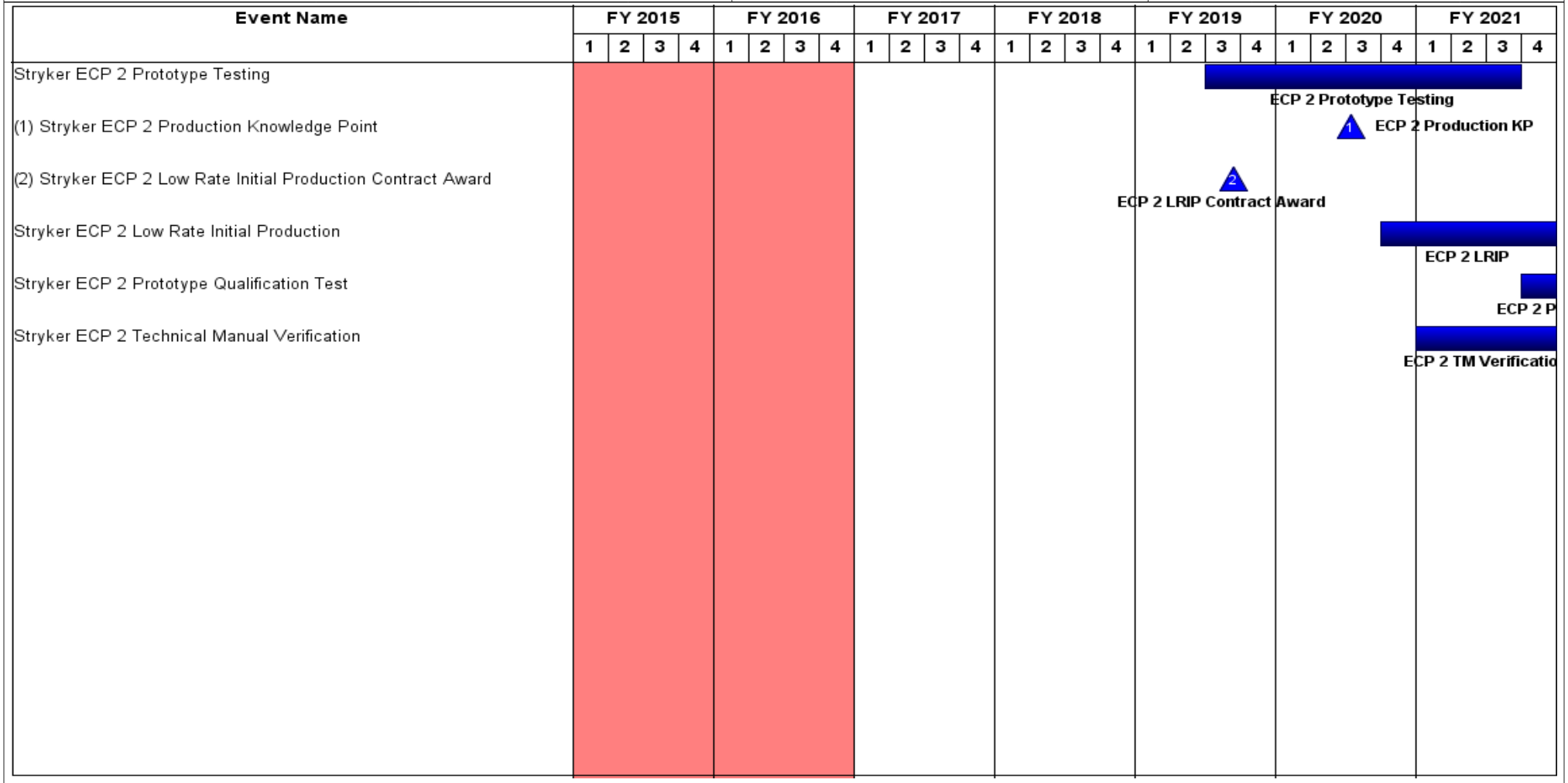

Exhibit R-4A, RDT&E Schedule Details: PB 2017 Army		Date: February 2016
Appropriation/Budget Activity 2040 / 7	**R-1 Program Element (Number/Name)** PE 0203735A / *Combat Vehicle Improvement Programs*	**Project (Number/Name)** EE2 / *Stryker Improvement*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Stryker Engineering Change Proposal (ECP) 1 (Phase II)	1	2014	2	2018
Stryker ECP 1 Critial Design Review (Phase II)	1	2015	1	2015
Stryker ECP 1 Tropic Region Test	3	2016	1	2017
Stryker ECP 1 Cold Region Test	1	2016	3	2016
Stryker ECP 1 Safety/Performance/RAM Test	4	2015	2	2018
Stryker ECP 1 Production Decision (Phase III)/Award	3	2016	4	2016
Stryker ECP 1 Production (Phase III)	3	2017	4	2020
Stryker ECP 1 Follow-on Operational Test & Evaluation.	3	2018	3	2018
Stryker ONS Lethality Effort	1	2016	3	2018
Stryker ONS Lethality Preliminary Design Review	2	2016	2	2016
Stryker ONS Lethality Critical Design Review	3	2016	3	2016
Stryker ONS Lethality Test Readiness Review	4	2016	4	2016
Stryker ONS Lethality Safety/Performance/RAM Test//Ammo qualification test	2	2016	4	2017
Stryker ONS Lethality Early User Test & Evaluation	4	2017	4	2017
Stryker ONS Lethality Final Assembly Decision	3	2017	3	2017
Stryker ONS Lethality Production	4	2017	3	2018
Stryker Survivability Enhancements	1	2017	4	2017
Stryker ECP 2 Trade Study/Cost-Benefit Analysis (CBA)	1	2017	4	2017
Stryker ECP 2 Javelin Integration	1	2017	4	2017
Stryker ECP 2 Engineering & Manufacturing Development Decision	4	2017	4	2017
Stryker ECP 2 Engineering & Manufacturing Development Decision Award	1	2018	1	2018
Stryker ECP 2 Engineering and Manufacturing Development	1	2018	3	2020

Exhibit R-4A, RDT&E Schedule Details: PB 2017 Army		Date: February 2016
Appropriation/Budget Activity 2040 / 7	**R-1 Program Element (Number/Name)** PE 0203735A / *Combat Vehicle Improvement Programs*	**Project (Number/Name)** EE2 / *Stryker Improvement*

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Stryker ECP 2 Prototype Build	1	2019	4	2019
Stryker ECP 2 Lethality Preliminary Design Review	3	2018	3	2018
Stryker ECP 2 Critical Design Review	1	2019	1	2019
Stryker ECP 2 Test Readiness Review	4	2019	4	2019
Stryker ECP 2 Prototype Testing	3	2019	3	2021
Stryker ECP 2 Production Knowledge Point	3	2020	3	2020
Stryker ECP 2 Low Rate Initial Production Contract Award	3	2019	3	2020
Stryker ECP 2 Low Rate Initial Production	4	2020	3	2022
Stryker ECP 2 Prototype Qualification Test	4	2021	2	2022
Stryker ECP 2 Technical Manual Verification	1	2021	4	2021

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