| Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Army | | | | | | | | | | | Date: May 2017 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Appropriation/Budget Activity<br>2040: *Research, Development, Test & Evaluation, Army I* BA 7: *Operational Systems Development* | | | | | R-1 Program Element (Number/Name)<br>PE 0203735A *I Combat Vehicle Improvement Programs* | | | | | | | |
| **COST ($ in Millions)** | **Prior Years** | **FY 2016** | **FY 2017** | **FY 2018 Base** | **FY 2018 OCO** | **FY 2018 Total** | **FY 2019** | **FY 2020** | **FY 2021** | **FY 2022** | **Cost To Complete** | **Total Cost** |
| Total Program Element | - | 382.176 | 327.357 | 343.175 | - | 343.175 | 422.303 | 336.976 | 301.993 | 265.989 | Continuing | Continuing |
| 280: *Recov Veh Improv Prog* | - | 0.000 | 0.000 | 5.000 | - | 5.000 | 15.000 | 16.900 | 97.300 | 100.393 | Continuing | Continuing |
| 330: *Abrams Tank Improve Prog* | - | 73.768 | 88.452 | 108.570 | - | 108.570 | 159.380 | 108.000 | 68.000 | 59.939 | Continuing | Continuing |
| 371: *Bradley Improve Prog* | - | 91.752 | 102.382 | 130.863 | - | 130.863 | 179.400 | 149.000 | 87.500 | 81.889 | Continuing | Continuing |
| 431: *M113 IMPROVEMENTS* | - | 0.000 | 0.000 | 15.000 | - | 15.000 | 8.000 | 5.000 | 0.000 | 0.000 | 0.000 | 28.000 |
| EE2: *Stryker Improvement* | - | 215.136 | 136.523 | 80.642 | - | 80.642 | 60.523 | 58.076 | 49.193 | 23.768 | Continuing | Continuing |
| FD8: *Light Armored Vehicle Improvement* | - | 1.520 | 0.000 | 3.100 | - | 3.100 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 4.620 |

**Note**

PE Number 0203735A/Project EE2 funds the development of Stryker Engineering Change Proposal (ECP) 1, Stryker Operational Needs Statement (ONS) Lethality, Stryker ECP 2 Lethality suite, and Stryker Survivability Enhancements.
PE Number 0203735A/Project FD8 funds the development of LAV25 enhancements. The Recovery Vehicle Improvement program (280) is a new start effort. The M113 Improvements program (431) is a new start effort.

**A. Mission Description and Budget Item Justification**

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.

| Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Army | Date: May 2017 |
|---|---|
| **Appropriation/Budget Activity**<br>2040: *Research, Development, Test & Evaluation, Army I* BA 7: *Operational Systems Development* | **R-1 Program Element (Number/Name)**<br>PE 0203735A *I Combat Vehicle Improvement Programs* |

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), 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 protection systems, active protection systems, and an under-armor fire capability for Stryker-equipped reconnaissance troops. The ECP 2 effort will focus on the integration a suite of complementary lethality upgrades (medium caliber weapon, under armor Javelin, common masted sensor, improved target acquisition optics, and other capabilities) that will improve the suppressive fire and armored vehicle engagement capabilities across the Army's Stryker Brigade Combat Teams (SBCTs).

Light Armored Vehicle improvement program will design, test and modify two Light Armored Vehicles (LAV-25A2s) for Low Velocity Air Drop (LVAD) to inform operational concepts for Infantry Brigade Combat Teams (IBCT) in support of Global Response Force early entry operations. This will directly support the expeditionary maneuver excursion that will be conducted by the XVIII Airborne Corps in FY17-18.

M113 improvements will develop an affordable solution for upgrading the M113s to enhance protection, survivability, mobility and power generation to support the current and future network systems. This will provide the necessary enhancements to the M113 capability for Echelons Above Brigade (EAB) units with priority to the forward deployed units and equipment sets. The Armored Multi Purpose Vehicle (AMPV) program will replace all M113 family of vehicles in Armored Brigade Combat Teams (ABCT).

The Recovery Vehicle Improvement program is a group of ECPs that will allow the current recovery vehicle to regain Single Vehicle Recovery for the heaviest tracked combat vehicle. The current M88A2 is not capable of single vehicle recovery of the M1A2 SEPv2 in all situations and the M1A2 SEPv3 fielding in FY20 will further exacerbate the recovery problem.

| Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Army | Date: May 2017 |
|---|---|
| **Appropriation/Budget Activity**<br>2040: *Research, Development, Test & Evaluation, Army I* BA 7: *Operational Systems Development* | **R-1 Program Element (Number/Name)**<br>PE 0203735A *I Combat Vehicle Improvement Programs* |

| B. Program Change Summary ($ in Millions) | FY 2016 | FY 2017 | FY 2018 Base | FY 2018 OCO | FY 2018 Total |
|---|---|---|---|---|---|
| Previous President's Budget | 354.667 | 316.857 | 249.464 | - | 249.464 |
| Current President's Budget | 382.176 | 327.357 | 343.175 | - | 343.175 |
| Total Adjustments | 27.509 | 10.500 | 93.711 | - | 93.711 |
| • Congressional General Reductions | - | - | | | |
| • Congressional Directed Reductions | - | - | | | |
| • Congressional Rescissions | - | - | | | |
| • Congressional Adds | - | - | | | |
| • Congressional Directed Transfers | - | - | | | |
| • Reprogrammings | 0.760 | - | | | |
| • SBIR/STTR Transfer | 26.749 | - | | | |
| • Adjustments to Budget Years | 0.000 | 0.000 | 93.711 | - | 93.711 |
| • Amended 2017 | 0.000 | 10.500 | 0.000 | - | 0.000 |

| Congressional Add Details ($ in Millions, and Includes General Reductions) | FY 2016 | FY 2017 |
|---|---|---|
| **Project:** EE2: *Stryker Improvement* | | |
| Congressional Add: *Stryker Operational Needs Statement Lethality Development (Engineering/Prototypes) Congressional Add* | 70.146 | - |
| Congressional Add: *Stryker Operational Needs Statement Lethality Testing Congressional Add* | 6.410 | - |
| Congressional Add: *Stryker Operational Needs Statement Lethality Contractor Support to Test Congressional Add* | 16.456 | - |
| Congressional Add: *Stryker Operational Needs Statement Lethality Government Engineering and Project Management Congressional Add* | 4.488 | - |
| Congressional Add Subtotals for Project: EE2 | 97.500 | - |
| Congressional Add Totals for all Projects | 97.500 | - |

| Exhibit R-2A, RDT&E Project Justification: FY 2018 Army | | | Date: May 2017 |
|---|---|---|---|
| Appropriation/Budget Activity<br>2040 / 7 | R-1 Program Element (Number/Name)<br>PE 0203735A / *Combat Vehicle Improvement Programs* | Project (Number/Name)<br>280 / *Recov Veh Improv Prog* | |

| COST ($ in Millions) | Prior Years | FY 2016 | FY 2017 | FY 2018 Base | FY 2018 OCO | FY 2018 Total | FY 2019 | FY 2020 | FY 2021 | FY 2022 | Cost To Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 280: *Recov Veh Improv Prog* | - | 0.000 | 0.000 | 5.000 | - | 5.000 | 15.000 | 16.900 | 97.300 | 100.393 | Continuing | Continuing |
| Quantity of RDT&E Articles | - | - | - | - | - | - | - | - | - | - | | |

**Note**

The Recovery Vehicle Improvement program is a new start effort.

**A. Mission Description and Budget Item Justification**

The M88A2 Heavy Equipment Recovery Combat Utility Lift and Evacuation System (HERCULES), a designated ACAT IC program since 15 Jun 2016, has been providing towing, winching, and hoisting operations to support battlefield recovery operations and evacuation of heavy tanks and other tracked combat vehicles since its production and deployment in 1998. The HERCULES recovers tanks mired to different depths, removes M1 Abrams turrets and power packs, and uprights overturned heavy combat vehicles. The HERCULES provides Single Vehicle Recovery of the 70 Ton Abrams tank.

The 1998 Operational Requirements Document (ORD) required Single Vehicle Recovery (SVR) of a 70T Main Battle Tank. The Abrams SEPv2 CURRENTLY exceeds the 70T ORD requirement and the M88A2 is unable to safely perform SVR of MBT in all conditions. SEPv3 further exacerbates the problem. Current doctrine requires a holdback vehicle for loads > 70T and the M88A2 multi-vehicle towing is not resourced or trained. The approved CPD as of 10 Jan 2017, requires the Improved M88A2 (M88A2E1) to enable “Single Vehicle Recovery of the heaviest tracked combat vehicle.”

Technical assessments and analyses will be used to clarify the capability gap (Single Vehicle Recovery), evaluate design solution concepts, and inform key program decision points. The goal of the assessments will be to provide confidence to Army Leadership that a M88A2E1 solution is affordable, achievable, and technologically feasible with manageable risk. Limited analyses, conducted to date, suggests that upgrades to the M88A2 track, suspension, transmission, hydraulics and potentially powertrain are required.

FY 2018 Base dollars in the amount of $5 million will be used to support M88A2 baseline testing and conduct sub-system trade analyses. FY 2018 Base dollars will also be used for Program Management Support and Contractor and Government Systems Engineering for labor and travel to effectively manage the program.

| B. Accomplishments/Planned Programs ($ in Millions) | FY 2016 | FY 2017 | FY 2018 Base | FY 2018 OCO | FY 2018 Total |
|---|---|---|---|---|---|
| ***Title:*** Program Management (PMO) Support | - | - | 2.000 | - | 2.000 |
| ***Description:*** Program Management Office Support includes Systems Engineering, Government and Contractor salaries, travel and other support costs required to effectively manage the program. | | | | | |
| ***FY 2018 Base Plans:*** | | | | | |

| Exhibit R-2A, RDT&E Project Justification: FY 2018 Army | | Date: May 2017 |
|---|---|---|
| **Appropriation/Budget Activity**<br>2040 / 7 | **R-1 Program Element (Number/Name)**<br>PE 0203735A / *Combat Vehicle Improvement Programs* | **Project (Number/Name)**<br>280 / *Recov Veh Improv Prog* |

| B. Accomplishments/Planned Programs ($ in Millions) | FY 2016 | FY 2017 | FY 2018 Base | FY 2018 OCO | FY 2018 Total |
|---|---|---|---|---|---|
| The United States Government (USG) will conduct a Request for Proposal (RFP) to meet track requirements, down-select track options and will conduct both the sub-system trade and Cost Benefit Analyses (CBA). The CBA will determine a path forward. Program Management Office (PMO) also support System Engineering (SE) and conducting System Level Analysis of Alternatives (AoA) with TRADOC Analysis Center (TRAC) in FY 2018. The PMO and SE support will include labor, travel and other support costs to effectively manage the program. | | | | | |
| ***Title:*** Test and Evaluation<br>***Description:*** Concept and Evaluation activities include contractor and government testing, as well as test documentation development. Contractor prove-out testing will be conducted using U.S. Army test facilities. Evaluation activities also include the testing of other platform inbound technologies, along with the development of test documentation to include Test and Evaluation Master Plans, test procedures and reports.<br><br>***FY 2018 Base Plans:***<br>USG will conduct system/sub-system tests on engine, suspension, rear-lift, etc. The concept, demonstration and evaluation events will occur at various government sites (Army Test and Evaluation Command (ATEC), Aberdeen Proving Ground (APG), Yuma Proving Grounds (YPG) and TARDEC). Contractor will conduct sub-system trades, technical evaluations, requirements development, test support, deliverables, support TRADOC Analysis Center (TRAC) AoA, and powertrain upgrades as a result of caterpillar engine integration. | - | - | 3.000 | - | 3.000 |
| **Accomplishments/Planned Programs Subtotals** | - | - | 5.000 | - | 5.000 |

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

| Line Item | FY 2016 | FY 2017 | FY 2018 Base | FY 2018 OCO | FY 2018 Total | FY 2019 | FY 2020 | FY 2021 | FY 2022 | Cost To Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| • GA0570: *Improved Recovery Vehicle (M88A2 HERCULES)* | 187.129 | 226.963 | 72.402 | - | 72.402 | - | - | - | - | 0 | 486.494 |
| • G80571: *M88 FOV MODS* | 14.878 | 8.685 | 4.826 | - | 4.826 | 4.558 | - | - | - | 0 | 32.947 |

**Remarks**

**D. Acquisition Strategy**

The M88A2 ECP1 Program Strategy is designed to address the loss of Single Vehicle Recovery (SVR) capability for systems in excess of 70 Tons including all variants of the Abrams Main Battle Tank (MBT). An Acquisition Strategy is being developed for this effort.

| Exhibit R-2A, RDT&E Project Justification: FY 2018 Army | | Date: May 2017 |
|---|---|---|
| **Appropriation/Budget Activity**<br>2040 / 7 | **R-1 Program Element (Number/Name)**<br>PE 0203735A / *Combat Vehicle Improvement Programs* | **Project (Number/Name)**<br>280 / *Recov Veh Improv Prog* |

**E. Performance Metrics**

N/A

| Exhibit R-2A, RDT&E Project Justification: FY 2018 Army | | | Date: May 2017 |
|---|---|---|---|
| Appropriation/Budget Activity<br>2040 / 7 | R-1 Program Element (Number/Name)<br>PE 0203735A / *Combat Vehicle Improvement Programs* | Project (Number/Name)<br>330 / *Abrams Tank Improve Prog* | |

| COST ($ in Millions) | Prior Years | FY 2016 | FY 2017 | FY 2018 Base | FY 2018 OCO | FY 2018 Total | FY 2019 | FY 2020 | FY 2021 | FY 2022 | Cost To Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 330: *Abrams Tank Improve Prog* | - | 73.768 | 88.452 | 108.570 | - | 108.570 | 159.380 | 108.000 | 68.000 | 59.939 | Continuing | Continuing |
| Quantity of RDT&E Articles | - | - | - | - | - | - | - | - | - | - | | |

**A. Mission Description and Budget Item Justification**

The Army has approved Engineering Change Proposals (ECPs) for the Abrams Main Battle Tank to restore lost capability, host inbound technologies, and to meet objective performance requirements called out in approved platform requirements documents. 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 restore lost platform capability, the Abrams Tank will execute a series of ECPs to support the current embedded systems and to facilitate integration of technologies currently in development. 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. 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, technologies to mitigate obsolescence issues, in-bound technologies under development, and technologies to decrease the overall weight of the tank.

| B. Accomplishments/Planned Programs ($ in Millions) | FY 2016 | FY 2017 | FY 2018 Base | FY 2018 OCO | FY 2018 Total |
|---|---|---|---|---|---|
| ***Title:*** Abrams Power Engineering Change Proposal (ECP) 1A | 25.000 | 8.886 | 7.998 | - | 7.998 |
| ***Description:*** The improvements implemented through the Abrams Power ECP 1A program will restore lost power generation and distribution, mitigate impending obsolescence, and incorporate inbound technologies currently under development. | | | | | |
| ***FY 2016 Accomplishments:***<br>A The ECP 1a program completed a System Verification Review (SVR) and Production Readiness Review (PRR). The program also approved an ECP 1a Technical Data Package (TDP). The United States Government (USG) continued Production Prove-Out Test (PPT) throughout FY16 and completed root cause and corrective actions for failures found during testing. The ECP 1A team integrated mine blast improvements, updated the Portable Maintenance Device (PMD), updated the Recording and Simulation Unit (RSU), and Joint Chemical Agent Detector (JCAD) hardware, along with the software required to run these devices. The logistics team | | | | | |

| Exhibit R-2A, RDT&E Project Justification: FY 2018 Army | | Date: May 2017 |
|---|---|---|
| **Appropriation/Budget Activity**<br>2040 / 7 | **R-1 Program Element (Number/Name)**<br>PE 0203735A / *Combat Vehicle Improvement Programs* | **Project (Number/Name)**<br>330 / *Abrams Tank Improve Prog* |

| B. Accomplishments/Planned Programs ($ in Millions) | FY 2016 | FY 2017 | FY 2018 Base | FY 2018 OCO | FY 2018 Total |
|---|---|---|---|---|---|
| continued to develop the technical manuals and field support equipment. The team also started cyber security testing of the Commander's Display Unit (CDU).<br><br>***FY 2017 Plans:***<br>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.<br><br>***FY 2018 Base Plans:***<br>The USG will complete Production Prove-Out Test (PPT) and Live Fire Test and Evaluation (LFT&E). The USG will begin Production Qualification Testing (PQT) and preparations for Follow-on Operational Test and Evaluation (FOT&E). The team will continue to complete root cause and corrective actions (hardware and software) for failures found during testing. Logistics will complete technical manual development and begin conducting the logistics demonstration. | | | | | |
| ***Title:*** Training Device Updates<br><br>***Description:*** Development and design of training device upgrades to reflect upgrades to the vehicle.<br><br>***FY 2018 Base Plans:***<br>Development, design, test, and evaluation activities of training device upgrade kits. | - | - | 3.300 | - | 3.300 |
| ***Title:*** Abrams Lethality Engineering Change Proposal (ECP) 1B (formerly ECP 2)<br><br>***Description:*** The Abrams Lethality ECP 1B (formerly Lethality ECP 2) program consists 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.<br><br>***FY 2016 Accomplishments:***<br>The ECP 1B team completed a System Requirements Review (SRR), trade studies, analysis, and technology maturation in FY16. These efforts focused on incorporating the 3rd Gen FLIR, environmental controls, Laser | 15.969 | 22.523 | 60.561 | - | 60.561 |

| Exhibit R-2A, RDT&E Project Justification: FY 2018 Army | | Date: May 2017 |
|---|---|---|
| **Appropriation/Budget Activity**<br>2040 / 7 | **R-1 Program Element (Number/Name)**<br>PE 0203735A / *Combat Vehicle Improvement Programs* | **Project (Number/Name)**<br>330 / *Abrams Tank Improve Prog* |

| B. Accomplishments/Planned Programs ($ in Millions) | FY 2016 | FY 2017 | FY 2018 Base | FY 2018 OCO | FY 2018 Total |
|---|---|---|---|---|---|
| Warning Receiver (LWR), vehicle smoke, and advanced sensors. The efforts culminated in an updated system specification and a requirements compliance matrix.<br>***FY 2017 Plans:***<br>ECP 1B development engineering efforts will continue with the System Functional Review (SFR) in 4Q FY17. SFR will be followed by preliminary design activities, ensuring the design and basic system architecture are complete with technical confidence. Abrams will continue to support Ground Sensors with 3GEN Forward Looking Infrared (FLIR) integration engineering. Trade studies, analyses, and technology maturation will be performed to evaluate other potential improvements. PM Abrams will integrate the Advanced Multi-Purpose (AMP) round into the Abrams family of vehicles (FOV).<br>***FY 2018 Base Plans:***<br>ECP 1B will continue efforts toward completing a Preliminary Design Review in 4Q FY18. The primary tasks will be focused on systems engineering, design trade studies, engineering modeling and analysis, initial hardware mockups, and software development. Early hardware will be used to start Design Verification Testing (DVT). PM Abrams will continue to integrate the Advanced Multi-Purpose (AMP) round into the Abrams family of vehicles (FOV). | | | | | |
| ***Title:*** Program Management Office (PMO) Support<br>***Description:*** Program Management Office Support includes Systems Engineering and Government and Contractor salaries, travel and other support costs required to effectively manage the program.<br>***FY 2016 Accomplishments:***<br>Continued Government Systems Engineering and Program Management Office Support in FY2016. Including labor, travel, training, supplies and equipment to effectively manage the program.<br>***FY 2017 Plans:***<br>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.<br>***FY 2018 Base Plans:***<br>Continue Government Systems Engineering and Program Management office support in FY2018. This will include labor, training, travel, supplies, and equipment to effectively manage the program. | 8.369 | 11.179 | 12.620 | - | 12.620 |
| ***Title:*** Test & Evaluation - Engineering Change Proposal (ECP) 1A | 13.528 | 20.564 | 24.091 | - | 24.091 |

| Exhibit R-2A, RDT&E Project Justification: FY 2018 Army | | Date: May 2017 |
|---|---|---|
| **Appropriation/Budget Activity**<br>2040 / 7 | **R-1 Program Element (Number/Name)**<br>PE 0203735A / *Combat Vehicle Improvement Programs* | **Project (Number/Name)**<br>330 / *Abrams Tank Improve Prog* |

| B. Accomplishments/Planned Programs ($ in Millions) | FY 2016 | FY 2017 | FY 2018 Base | FY 2018 OCO | FY 2018 Total |
|---|---|---|---|---|---|
| ***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 technologies, along with the development of test documentation to include Test and Evaluation Master Plans, test procedures, and reports.<br><br>***FY 2016 Accomplishments:***<br>Continued Test and Evaluation supporting 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 began. Electromagnetic Interference/Electromagnetic Compatibility (EMI/EMC) Testing began in 3Q FY2016. These test and evaluation events occurred at various test sites (Aberdeen Proving Ground, Yuma Proving Ground, and White Sands Missile Range).<br><br>***FY 2017 Plans:***<br>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).<br><br>***FY 2018 Base Plans:***<br>In FY18 the USG will complete ECP 1a Production Prove-Out Test (PPT) including all automotive RAM testing, and EMI/EMC testing. The USG will also conduct and complete ECP 1a Live Fire Test and Evaluation (LFT&E) and transportability testing. The USG will begin ECP 1a Production Qualification Testing (PQT) and preparations for Follow-on Operational Test and Evaluation (FOT&E). These test and evaluation events will occur at various sites (Aberdeen Proving Ground, Yuma Proving Ground, and White Sands Missile Range). | | | | | |
| ***Title:*** Survivability Enhancements<br><br>***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 | 10.902 | 25.300 | - | - | - |

| Exhibit R-2A, RDT&E Project Justification: FY 2018 Army | | Date: May 2017 |
|---|---|---|
| **Appropriation/Budget Activity**<br>2040 / 7 | **R-1 Program Element (Number/Name)**<br>PE 0203735A / *Combat Vehicle Improvement Programs* | **Project (Number/Name)**<br>330 / *Abrams Tank Improve Prog* |

| B. Accomplishments/Planned Programs ($ in Millions) | FY 2016 | FY 2017 | FY 2018 Base | FY 2018 OCO | FY 2018 Total |
|---|---|---|---|---|---|
| evolving threats include, but are not limited to, Active Protective Systems. Lethality improvements include, but are not limited to, cannon and ammunition upgrades.<br><br>***FY 2016 Accomplishments:***<br>Initiated Abrams Expedited Non Developmental Item (NDI) Active Protection System (APS) Effort. In 2Q FY2016, awarded contract to the tank OEM for non-recurring engineering to design an installation kit to supply power and bracketry to support an APS. A Government-to-Government agreement was approved and funded in 3Q FY2016.<br><br>***FY 2017 Plans:***<br>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 include, but are not limited to, Active Protective Systems. Lethality improvements include, but are not limited to, cannon and ammunition upgrades. | | | | | |
| **Accomplishments/Planned Programs Subtotals** | 73.768 | 88.452 | 108.570 | - | 108.570 |

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

| Line Item | FY 2016 | FY 2017 | FY 2018 Base | FY 2018 OCO | FY 2018 Total | FY 2019 | FY 2020 | FY 2021 | FY 2022 | Cost To Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| • Abrams Upgrade Program: *Abrams Upgrade Program (GA0750) WTCV* | - | 330.000 | 275.000 | 442.800 | 717.800 | 261.500 | 442.149 | 454.200 | 497.000 | Continuing | Continuing |
| • M1 Abrams Tank Mod (GA0700): *M1 Abrams Tank Mod (GA0700) WTCV* | 430.939 | 480.166 | 248.826 | 138.700 | 387.526 | 238.500 | 272.200 | 280.467 | 275.000 | Continuing | Continuing |

**Remarks**

**D. Acquisition Strategy**

Abrams Power 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: FY 2018 Army | | | Date: May 2017 |
|---|---|---|---|
| **Appropriation/Budget Activity**<br>2040 / 7 | **R-1 Program Element (Number/Name)**<br>PE 0203735A / *Combat Vehicle Improvement Programs* | **Project (Number/Name)**<br>330 / *Abrams Tank Improve Prog* | |

**Product Development ($ in Millions)**

| Cost Category Item | Contract Method & Type | Performing Activity & Location | Prior Years | FY 2016 Cost | FY 2016 Award Date | FY 2017 Cost | FY 2017 Award Date | FY 2018 Base Cost | FY 2018 Base Award Date | FY 2018 OCO Cost | FY 2018 OCO Award Date | FY 2018 Total Cost | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Abrams ECP 1A | SS/CPIF | General Dynamics Land Systems : Sterling Heights, MI | 312.419 | 15.100 | Apr 2016 | 8.886 | Feb 2017 | 7.998 | Mar 2018 | - | | 7.998 | Continuing | Continuing | 0.000 |
| ECP 1A Training Device Upgrades | MIPR | PEO, STRI : Orlando, FL | 0.000 | - | | - | | 3.300 | Nov 2017 | - | | 3.300 | Continuing | Continuing | 0.000 |
| Abrams ECP 1B | SS/CPIF | General Dynamics Land Systems : Sterling Heights, MI | 0.000 | 15.969 | Dec 2015 | 16.530 | Aug 2017 | 58.561 | Oct 2017 | - | | 58.561 | Continuing | Continuing | 0.000 |
| Advanced Multi-Purpose (AMP) Round | SS/CPIF | General Dynamics Land Systems : Sterling Heights, MI | 0.000 | - | | 5.993 | May 2017 | 2.000 | Mar 2018 | - | | 2.000 | 0.000 | 7.993 | 0.000 |
| Survivability Enhancements | Various | US Army TARDEC; Rafael Advanced Defense Systems; General Dynamics Land Systems (GDLS) : Sterling Heights, MI | 0.000 | 10.645 | Apr 2016 | 21.752 | Dec 2016 | - | | - | | - | 0.000 | 32.397 | 0.000 |
| | | **Subtotal** | 312.419 | 41.714 | | 53.161 | | 71.859 | | - | | 71.859 | - | - | 0.000 |

**Support ($ in Millions)**

| Cost Category Item | Contract Method & Type | Performing Activity & Location | Prior Years | FY 2016 Cost | FY 2016 Award Date | FY 2017 Cost | FY 2017 Award Date | FY 2018 Base Cost | FY 2018 Base Award Date | FY 2018 OCO Cost | FY 2018 OCO Award Date | FY 2018 Total Cost | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Program Management Office (PMO)Support | MIPR | PMO Support Offices : Various | 56.721 | 8.369 | Jan 2016 | 11.179 | Jan 2017 | 12.620 | Jan 2018 | - | | 12.620 | Continuing | Continuing | Continuing |
| Program Management Office (PMO) Support - Survivability Enhancements | MIPR | PMO Support Offices : Various | 0.000 | 0.127 | Apr 2016 | 0.250 | Dec 2016 | - | | - | | - | 0.000 | 0.377 | 0.000 |
| | | **Subtotal** | 56.721 | 8.496 | | 11.429 | | 12.620 | | - | | 12.620 | - | - | - |

| Exhibit R-3, RDT&E Project Cost Analysis: FY 2018 Army | | | Date: May 2017 |
|---|---|---|---|
| Appropriation/Budget Activity<br>2040 / 7 | R-1 Program Element (Number/Name)<br>PE 0203735A / *Combat Vehicle Improvement Programs* | Project (Number/Name)<br>330 / *Abrams Tank Improve Prog* | |

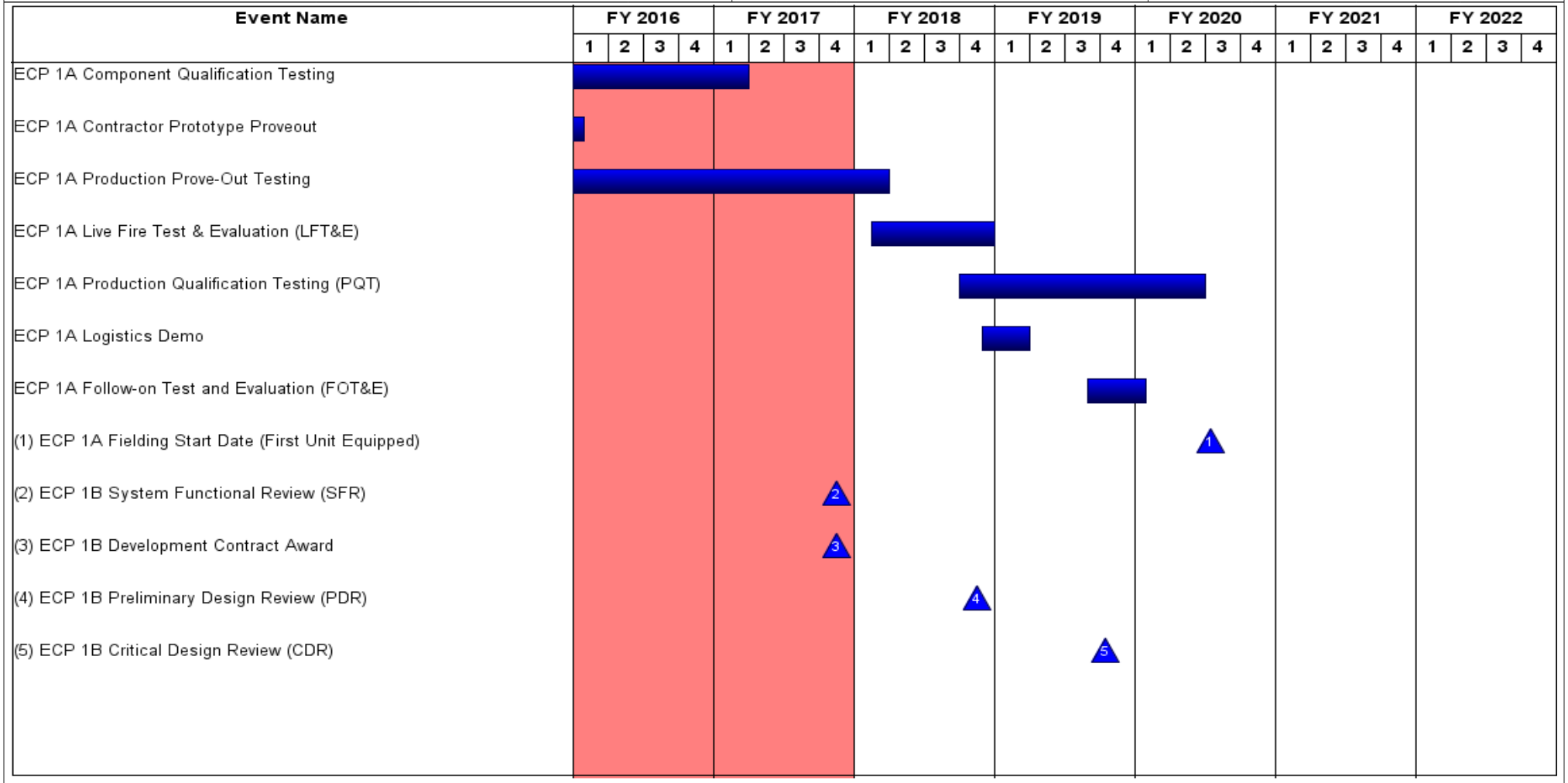
**Test and Evaluation ($ in Millions)**

| Cost Category Item | Contract Method & Type | Performing Activity & Location | Prior Years | FY 2016 Cost | FY 2016 Award Date | FY 2017 Cost | FY 2017 Award Date | FY 2018 Base Cost | FY 2018 Base Award Date | FY 2018 OCO Cost | FY 2018 OCO Award Date | FY 2018 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 | 14.840 | 13.528 | Jan 2016 | 11.423 | Jan 2017 | 12.089 | Jan 2018 | - | | 12.089 | Continuing | Continuing | Continuing |
| Contractor Testing | Various | Various : Various | 18.674 | 9.900 | Apr 2016 | 9.141 | Feb 2017 | 12.002 | Feb 2017 | - | | 12.002 | Continuing | Continuing | 0.000 |
| Government Testing - Survivability Enhancements | Various | Various : Various | 0.000 | 0.130 | Jul 2016 | 3.298 | Apr 2017 | - | | - | | - | 0.000 | 3.428 | 0.000 |
| | | **Subtotal** | 33.514 | 23.558 | | 23.862 | | 24.091 | | - | | 24.091 | - | - | - |

| | Prior Years | FY 2016 | | FY 2017 | | FY 2018 Base | | FY 2018 OCO | | FY 2018 Total | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project Cost Totals** | 402.654 | 73.768 | | 88.452 | | 108.570 | | - | | 108.570 | - | - | - |

**Remarks**

| Exhibit R-4, RDT&E Schedule Profile: FY 2018 Army | | Date: May 2017 |
|---|---|---|
| **Appropriation/Budget Activity**<br>2040 / 7 | **R-1 Program Element (Number/Name)**<br>PE 0203735A / *Combat Vehicle Improvement Programs* | **Project (Number/Name)**<br>330 / *Abrams Tank Improve Prog* |



| Exhibit R-4A, RDT&E Schedule Details: FY 2018 Army | | Date: May 2017 |
|---|---|---|
| **Appropriation/Budget Activity**<br>2040 / 7 | **R-1 Program Element (Number/Name)**<br>PE 0203735A / *Combat Vehicle Improvement Programs* | **Project (Number/Name)**<br>330 / *Abrams Tank Improve Prog* |

## Schedule Details

| | Start | | End | |
|---|---|---|---|---|
| **Events** | **Quarter** | **Year** | **Quarter** | **Year** |
| ECP 1A Component Qualification Testing | 4 | 2014 | 1 | 2017 |
| ECP 1A Contractor Prototype Proveout | 3 | 2015 | 1 | 2016 |
| ECP 1A Production Prove-Out Testing | 1 | 2016 | 1 | 2018 |
| 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 | 4 | 2018 | 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 System Functional Review (SFR) | 4 | 2017 | 4 | 2017 |
| ECP 1B Development Contract Award | 4 | 2017 | 4 | 2017 |
| ECP 1B Preliminary Design Review (PDR) | 4 | 2018 | 4 | 2018 |
| ECP 1B Critical Design Review (CDR) | 4 | 2019 | 4 | 2019 |

| Exhibit R-2A, RDT&E Project Justification: FY 2018 Army | | | Date: May 2017 |
|---|---|---|---|
| Appropriation/Budget Activity<br>2040 / 7 | R-1 Program Element (Number/Name)<br>PE 0203735A / *Combat Vehicle Improvement Programs* | Project (Number/Name)<br>371 / *Bradley Improve Prog* | |

| COST ($ in Millions) | Prior Years | FY 2016 | FY 2017 | FY 2018 Base | FY 2018 OCO | FY 2018 Total | FY 2019 | FY 2020 | FY 2021 | FY 2022 | Cost To Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 371: *Bradley Improve Prog* | - | 91.752 | 102.382 | 130.863 | - | 130.863 | 179.400 | 149.000 | 87.500 | 81.889 | 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. Additionally, a follow on Engineering Change Proposal to ECP 2, ECP 2b integrates Third Generation Forward Looking Infrared (3GEN 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, Vehicular Integration for Command, Control, Communication, Computers, Intelligence, Surveillance and, Reconnaissance/Electronic Warfare (C4ISR/EW) Interoperability (VICTORY) architecture compliance, etc). Product Manager Bradley will execute 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. A separate integration effort begins in FY 2018 for an underbelly armor kit for improved survivability against blast threats.

| B. Accomplishments/Planned Programs ($ in Millions) | FY 2016 | FY 2017 | FY 2018 Base | FY 2018 OCO | FY 2018 Total |
|---|---|---|---|---|---|
| ***Title:*** Bradley Engineering Change Proposal (ECP) Program | 42.933 | 43.711 | 21.875 | - | 21.875 |
| ***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 2016 Accomplishments:***<br>Contractor developmental testing continued through FY 2016 in various locations. Government developmental testing began in 2Q FY 2016 at Yuma Proving Ground (YPG) and Aberdeen Proving Ground (APG) test sites. Software Qualification Testing (SQT) took place in 2Q FY 2016. Suitability evaluations incorporated analysis of Manpower and Personnel Integration (MANPRINT) domains and logistics development as part of Integrated | | | | | |

| Exhibit R-2A, RDT&E Project Justification: FY 2018 Army | | Date: May 2017 |
|---|---|---|
| **Appropriation/Budget Activity**<br>2040 / 7 | **R-1 Program Element (Number/Name)**<br>PE 0203735A / *Combat Vehicle Improvement Programs* | **Project (Number/Name)**<br>371 / *Bradley Improve Prog* |

| B. Accomplishments/Planned Programs ($ in Millions) | FY 2016 | FY 2017 | FY 2018 Base | FY 2018 OCO | FY 2018 Total |
|---|---|---|---|---|---|
| Product Support (IPS) elements and was driven by the live fire (LF) analysis that occurred throughout FY 2016. Engineering will complete root cause and corrective action work as test incident reports arise.<br>***FY 2017 Plans:***<br>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.<br>***FY 2018 Base Plans:***<br>Complete system level development and support software upgrades to include integrated electronic technical manuals (IETM) development and vehicle diagnostics. Conduct a logistics demonstration at the contractor's facility. | | | | | |
| ***Title:*** Bradley Improvements<br>***Description:*** Continues Third Generation Forward Looking Infrared (3GEN FLIR) and other necessary technology integration efforts. The Bradley Family of Vehicles (BFV) will integrate underbelly armor for improved survivability against underbelly blast events. Conduct integration activities for Army directed improvements such as, but not limited to, rear view sensor system, and short range air defense (SHORAD) capability.<br>***FY 2016 Accomplishments:***<br>Contract development effort continued on ECP 2b (lethality improvements). Contract award is expected in 1QFY17. Continued synchronization with Project Director, Main Battle Tank Systems (PD MBTS), and Product Manager (PM) Ground Sensors. Trade studies/analysis were performed to evaluate 3GEN 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.<br>***FY 2017 Plans:***<br>Continue developmental engineering effort for all of the technologies that are a part of ECP 2b to include the 3GEN FLIR integration into the Bradley Commander's Independent 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 (SFR) and continue working toward Preliminary Design Review (PDR). Coordinate commonality and synchronization with PD Main Battle Tank Systems, PM Ground | 20.061 | 15.670 | 85.155 | - | 85.155 |

| Exhibit R-2A, RDT&E Project Justification: FY 2018 Army | | Date: May 2017 |
|---|---|---|
| **Appropriation/Budget Activity**<br>2040 / 7 | **R-1 Program Element (Number/Name)**<br>PE 0203735A / *Combat Vehicle Improvement Programs* | **Project (Number/Name)**<br>371 / *Bradley Improve Prog* |

| B. Accomplishments/Planned Programs ($ in Millions) | FY 2016 | FY 2017 | FY 2018 Base | FY 2018 OCO | FY 2018 Total |
|---|---|---|---|---|---|
| Sensors, PM Close Combat Weapon Systems, and the ECP 2b Prime Contractor. 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.<br>***FY 2018 Base Plans:***<br>Continue developmental engineering effort for all technologies that are a part of ECP 2b to include 3GEN FLIR integration into the Bradley Commander's Independent Viewer (CIV) and Improved Bradley Acquisition System (IBAS), laser pointing, laser range finder, environmental control system, commander's independent weapon station. Complete Preliminary Design Review (PDR) and continue working toward Critical Design Review (CDR). Coordinate commonality and synchronization with PD 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 2018 with a competitive contract award to an industry partner for an underbelly contingency kit designed to enhance the BFV force protection and vehicle survivability. Also, logistics support for UBIS will begin the development of the Maintenance Allocation Chart (MAC) and provisioning plan. | | | | | |
| ***Title:*** Survivability Enhancements<br>***Description:*** Initiate a Non Development Initiative (NDI) Active Protection System (APS) installation and characterization initiative to evaluate Bradley performance with an APS solution installed which includes developing force protection and survivability improvements to counter evolving threats to include, but not limited to Active Protection System in FY 2017.<br>***FY 2016 Accomplishments:***<br>Initiated identification of potentially suitable Active Protection Systems, engineering efforts to develop bracket and mounting provisions and obtain the system to install for characterization events. Included platform integration of software and hardware of Active Protection Systems and survivability capabilities to counter evolving threats in FY 2018.<br>***FY 2017 Plans:***<br>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. Continued development of Action Protection System and mounting provisions, install systems and perform characterization. | 11.000 | 15.300 | - | - | - |
| ***Title:*** Program Management Office (PMO) Support | 9.305 | 8.916 | 9.448 | - | 9.448 |

| Exhibit R-2A, RDT&E Project Justification: FY 2018 Army | | Date: May 2017 |
|---|---|---|
| **Appropriation/Budget Activity**<br>2040 / 7 | **R-1 Program Element (Number/Name)**<br>PE 0203735A / *Combat Vehicle Improvement Programs* | **Project (Number/Name)**<br>371 / *Bradley Improve Prog* |

| B. Accomplishments/Planned Programs ($ in Millions) | FY 2016 | FY 2017 | FY 2018 Base | FY 2018 OCO | FY 2018 Total |
|---|---|---|---|---|---|
| ***Description:*** Program Management Office Support includes systems engineering, government and contractor salaries, travel, training and other support costs required to effectively manage the program.<br><br>***FY 2016 Accomplishments:***<br>Continued government systems engineering and program management office support in FY 2016. This included labor, travel, training, supplies, equipment and facilities to effectively manage the program.<br><br>***FY 2017 Plans:***<br>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.<br><br>***FY 2018 Base Plans:***<br>Continue 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, engineering phases of ECP 2b, and execute UBIS development activities. | | | | | |
| ***Title:*** Test & Evaluation<br><br>***Description:*** ECP 2 Test & Evaluation efforts support system sub-system test events and planning and development of test documentation.<br><br>***FY 2016 Accomplishments:***<br>ECP 2 Test and Evaluation supported vehicle level test events and planning and development of test documentation. Contractor developmental testing continued throughout FY 2016 in various contractor locations. Government developmental testing began in 3Q FY 2016. Automotive/Reliability, Availability and Maintainability (RAM) testing began as well as automotive performance testing to ensure ECP 2 components do not degrade the current Bradley performance. These test and evaluation events occurred at various test sites (Aberdeen Proving Ground, Yuma Proving Ground, and White Sands Missile Range). Software Qualification Testing (SQT) took place in 2Q FY 2016.<br><br>***FY 2017 Plans:***<br>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 | 8.453 | 18.785 | 14.385 | - | 14.385 |

| Exhibit R-2A, RDT&E Project Justification: FY 2018 Army | | Date: May 2017 |
|---|---|---|
| **Appropriation/Budget Activity**<br>2040 / 7 | **R-1 Program Element (Number/Name)**<br>PE 0203735A / *Combat Vehicle Improvement Programs* | **Project (Number/Name)**<br>371 / *Bradley Improve Prog* |

| B. Accomplishments/Planned Programs ($ in Millions) | FY 2016 | FY 2017 | FY 2018 Base | FY 2018 OCO | FY 2018 Total |
|---|---|---|---|---|---|
| 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. Final live fire testing on production vehicles will be completed in FY 2019.<br>***FY 2018 Base Plans:***<br>In accordance with the OSD approved Bradley ECP Test and Evaluation Master Plan (TEMP), ECP 2 testing and evaluation completes all Reliability, Availability and Maintainability Test as well as conducts Live Fire testing to complete initial developmental testing on the program. Additional developmental testing will be completed to support the test-fix-test cycle and testing at Cold Regions Test Center in Alaska will be completed. The Logistics Demonstration will also be preformed to demonstrate supportability of the platform and associated logistics materials. Detailed planning will be conducted to support operational testing that will occur in FY 2019. | | | | | |
| **Accomplishments/Planned Programs Subtotals** | 91.752 | 102.382 | 130.863 | - | 130.863 |

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

| Line Item | FY 2016 | FY 2017 | FY 2018 Base | FY 2018 OCO | FY 2018 Total | FY 2019 | FY 2020 | FY 2021 | FY 2022 | Cost To Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| • GZ2400: *Bradley Program (MOD)* | 210.042 | 490.033 | 437.851 | 30.000 | 467.851 | 333.000 | 403.872 | 417.000 | 431.946 | 0.000 | 2,753.744 |
| • G80718: *Bradley Program* | - | - | 0.000 | 200.000 | 200.000 | - | - | - | - | 0.000 | 200.000 |

**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 was 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 (3GEN FLIR) sights began in FY 2016. The 3GEN FLIR (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. Product Manager Bradley will execute 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 2018.

| Exhibit R-2A, RDT&E Project Justification: FY 2018 Army | | Date: May 2017 |
|---|---|---|
| **Appropriation/Budget Activity**<br>2040 / 7 | **R-1 Program Element (Number/Name)**<br>PE 0203735A / *Combat Vehicle Improvement Programs* | **Project (Number/Name)**<br>371 / *Bradley Improve Prog* |

**E. Performance Metrics**

N/A

| Exhibit R-3, RDT&E Project Cost Analysis: FY 2018 Army | | Date: May 2017 |
|---|---|---|
| **Appropriation/Budget Activity**<br>2040 / 7 | **R-1 Program Element (Number/Name)**<br>PE 0203735A / *Combat Vehicle Improvement Programs* | **Project (Number/Name)**<br>371 / *Bradley Improve Prog* |

**Product Development ($ in Millions)**

| Cost Category Item | Contract Method & Type | Performing Activity & Location | Prior Years | FY 2016 Cost | FY 2016 Award Date | FY 2017 Cost | FY 2017 Award Date | FY 2018 Base Cost | FY 2018 Base Award Date | FY 2018 OCO Cost | FY 2018 OCO Award Date | FY 2018 Total Cost | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bradley Modernization Program | SS/CPIF | PMO : Warren | 79.009 | - | | - | | - | | - | | - | 0.000 | 79.009 | 0.000 |
| Non Recurring Engineering-ECP2 | SS/FFP | L3COM : Muskegon, MI | 14.660 | 1.035 | Apr 2016 | 0.528 | May 2017 | - | | - | | - | Continuing | Continuing | Continuing |
| Non Recurring Engineering-ECP2 | SS/CPIF | BAE : Sterling Heights, MI | 167.936 | 41.898 | Jan 2016 | 43.183 | Nov 2016 | 21.875 | Nov 2017 | - | | 21.875 | Continuing | Continuing | Continuing |
| Bradley Improvement Integration - ECP2b | SS/CPIF | BAE : Sterling Heights, MI | 1.363 | 19.879 | Jun 2016 | 15.670 | Nov 2016 | 80.574 | Nov 2017 | - | | 80.574 | Continuing | Continuing | Continuing |
| Bradley Improvement Integration - Underbelly Armor | SS/CPIF | TBD : TBD | 0.000 | 0.182 | Jan 2016 | - | | 4.581 | Jan 2018 | - | | 4.581 | Continuing | Continuing | Continuing |
| Survivability Enhancements | SS/CPIF | TBD : TBD | 0.000 | 11.000 | Oct 2016 | 15.300 | Jan 2017 | - | | - | | - | Continuing | Continuing | Continuing |
| | | **Subtotal** | 262.968 | 73.994 | | 74.681 | | 107.030 | | - | | 107.030 | - | - | - |

**Support ($ in Millions)**

| Cost Category Item | Contract Method & Type | Performing Activity & Location | Prior Years | FY 2016 Cost | FY 2016 Award Date | FY 2017 Cost | FY 2017 Award Date | FY 2018 Base Cost | FY 2018 Base Award Date | FY 2018 OCO Cost | FY 2018 OCO Award Date | FY 2018 Total Cost | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PMO/PEO Support/OGA | MIPR | PMO/PEO : Bradley ECP Program | 20.841 | 3.397 | Dec 2015 | 3.076 | Dec 2016 | 3.260 | Dec 2017 | - | | 3.260 | Continuing | Continuing | Continuing |
| Government Engineering Support | MIPR | Various : Bradley ECP Program | 32.685 | 5.908 | Dec 2015 | 5.840 | Dec 2016 | 6.188 | Dec 2017 | - | | 6.188 | Continuing | Continuing | Continuing |
| | | **Subtotal** | 53.526 | 9.305 | | 8.916 | | 9.448 | | - | | 9.448 | - | - | - |

**Test and Evaluation ($ in Millions)**

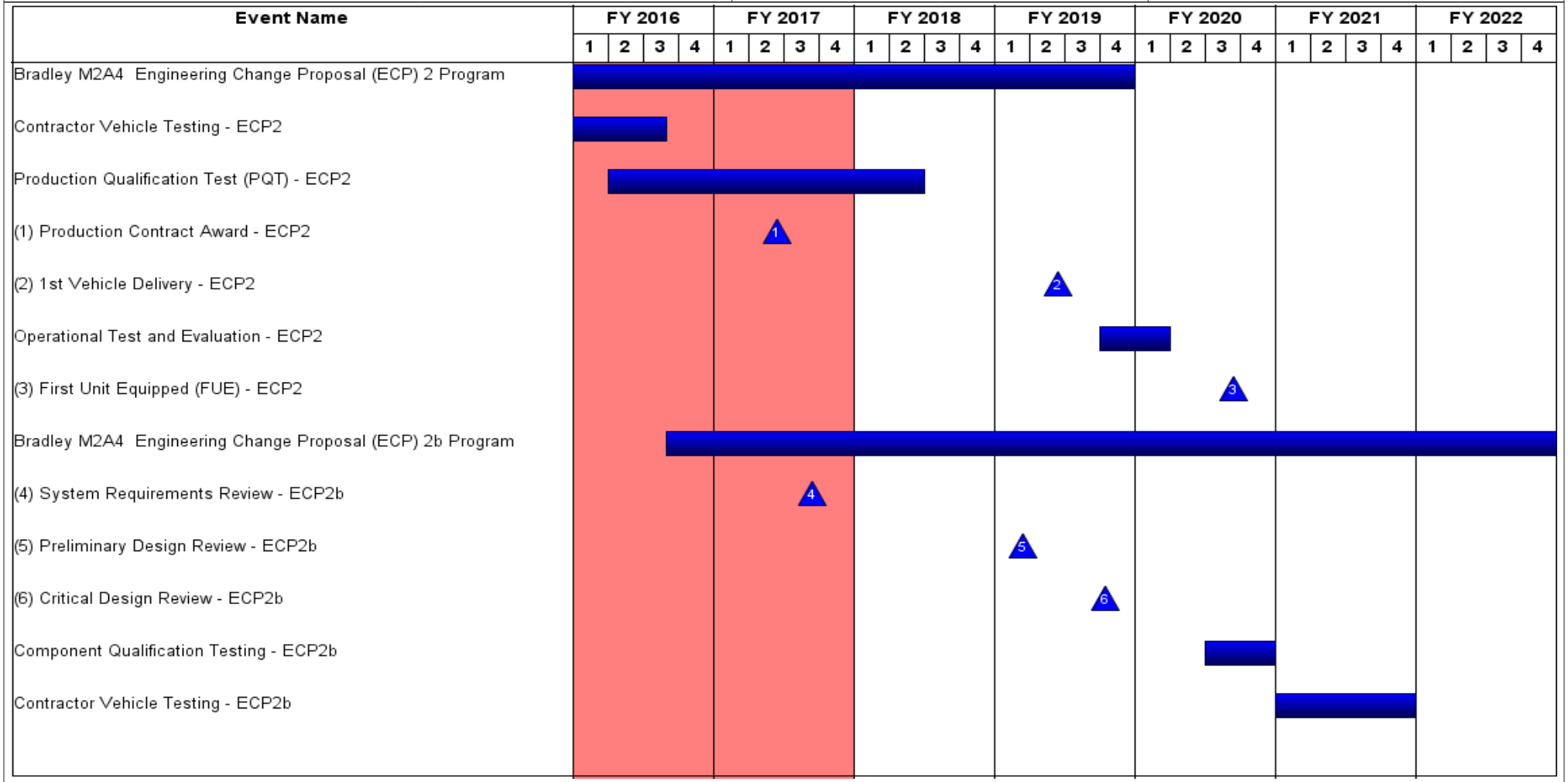
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Prior Years | FY 2016 Cost | FY 2016 Award Date | FY 2017 Cost | FY 2017 Award Date | FY 2018 Base Cost | FY 2018 Base Award Date | FY 2018 OCO Cost | FY 2018 OCO Award Date | FY 2018 Total Cost | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Government Testing | MIPR | Various : Test Sites | 5.816 | 8.453 | May 2016 | 18.785 | Jan 2017 | 14.385 | Dec 2017 | - | | 14.385 | Continuing | Continuing | Continuing |
| | | **Subtotal** | 5.816 | 8.453 | | 18.785 | | 14.385 | | - | | 14.385 | - | - | - |

| Exhibit R-3, RDT&E Project Cost Analysis: FY 2018 Army | | | Date: May 2017 |
|---|---|---|---|
| Appropriation/Budget Activity<br>2040 / 7 | R-1 Program Element (Number/Name)<br>PE 0203735A / *Combat Vehicle Improvement Programs* | Project (Number/Name)<br>371 / *Bradley Improve Prog* | |

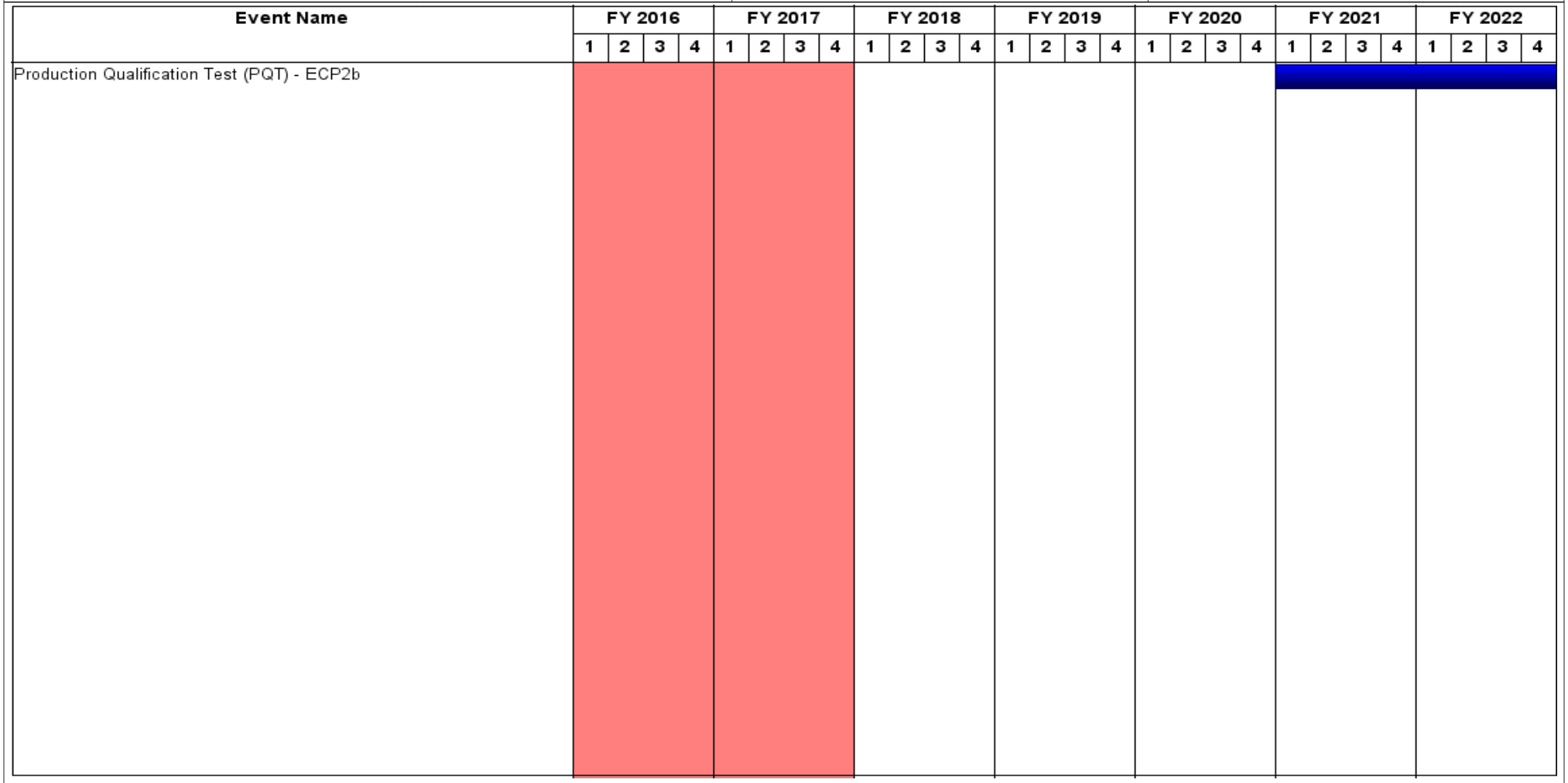
| | Prior Years | FY 2016 | | FY 2017 | | FY 2018 Base | | FY 2018 OCO | | FY 2018 Total | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Project Cost Totals | 322.310 | 91.752 | | 102.382 | | 130.863 | | - | | 130.863 | - | - | - |

**Remarks**

| Exhibit R-4, RDT&E Schedule Profile: FY 2018 Army | | Date: May 2017 |
|---|---|---|
| **Appropriation/Budget Activity**<br>2040 / 7 | **R-1 Program Element (Number/Name)**<br>PE 0203735A / *Combat Vehicle Improvement Programs* | **Project (Number/Name)**<br>371 / *Bradley Improve Prog* |



| Exhibit R-4, RDT&E Schedule Profile: FY 2018 Army | | Date: May 2017 |
|---|---|---|
| **Appropriation/Budget Activity**<br>2040 / 7 | **R-1 Program Element (Number/Name)**<br>PE 0203735A / *Combat Vehicle Improvement Programs* | **Project (Number/Name)**<br>371 / *Bradley Improve Prog* |



| Exhibit R-4A, RDT&E Schedule Details: FY 2018 Army | | Date: May 2017 |
|---|---|---|
| **Appropriation/Budget Activity**<br>2040 / 7 | **R-1 Program Element (Number/Name)**<br>PE 0203735A / *Combat Vehicle Improvement Programs* | **Project (Number/Name)**<br>371 / *Bradley Improve Prog* |

## Schedule Details

| | Start | | End | |
|---|---|---|---|---|
| **Events** | **Quarter** | **Year** | **Quarter** | **Year** |
| Bradley M2A4 Engineering Change Proposal (ECP) 2 Program | 1 | 2012 | 4 | 2019 |
| 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 | 3 | 2017 | 3 | 2017 |
| Preliminary Design Review - ECP2b | 1 | 2019 | 1 | 2019 |
| 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 | 2023 |

| Exhibit R-2A, RDT&E Project Justification: FY 2018 Army | | | Date: May 2017 |
|---|---|---|---|
| Appropriation/Budget Activity<br>2040 / 7 | R-1 Program Element (Number/Name)<br>PE 0203735A / *Combat Vehicle Improvement Programs* | Project (Number/Name)<br>431 / *M113 IMPROVEMENTS* | |

| COST ($ in Millions) | Prior Years | FY 2016 | FY 2017 | FY 2018 Base | FY 2018 OCO | FY 2018 Total | FY 2019 | FY 2020 | FY 2021 | FY 2022 | Cost To Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 431: *M113 IMPROVEMENTS* | - | 0.000 | 0.000 | 15.000 | - | 15.000 | 8.000 | 5.000 | 0.000 | 0.000 | 0.000 | 28.000 |
| Quantity of RDT&E Articles | - | - | - | - | - | - | - | - | - | - | | |

**Note**

The M113 Improvements program is a new start effort.

**A. Mission Description and Budget Item Justification**

M113 improvements will develop an affordable solution for upgrading the M113s to enhance protection, survivability, mobility and power generation to support the current and future network systems. This will provide the necessary enhancements to the M113 capability for Echelons Above Brigade (EAB) units with priority to the forward deployed units and equipment sets. The Armored Multi Purpose Vehicle (AMPV) program will replace all M113 family of vehicles in Armored Brigade Combat Teams (ABCT).

| B. Accomplishments/Planned Programs ($ in Millions) | FY 2016 | FY 2017 | FY 2018 Base | FY 2018 OCO | FY 2018 Total |
|---|---|---|---|---|---|
| ***Title:*** Product Development<br>***Description:*** Design, fabrication and testing of Engineering Change Proposals (ECPs).<br>***FY 2018 Base Plans:***<br>Government RFP development and competitive source selection planning to include the preparation of government furnished material and technical data that will support a competitively awarded contract. After award the contractor will complete Engineering Change Proposals (ECP) vehicle modifications designs, fabricate ECP vehicle modifications kits for test, provide support to testing and finalize ECPs in support of production. | - | - | 14.100 | - | 14.100 |
| ***Title:*** Government Program Management<br>***Description:*** Program Management Office Support includes Systems Engineering, support to logistics development, Government salaries, travel, training and other support costs required to effectively manage the program.<br>***FY 2018 Base Plans:***<br>Provide integrated program management to oversee technical development and fabrication efforts of the contractor. Provide program management to plan and oversee test efforts if test vehicles are delivered ahead of schedule. | - | - | 0.900 | - | 0.900 |
| **Accomplishments/Planned Programs Subtotals** | - | - | 15.000 | - | 15.000 |

| Exhibit R-2A, RDT&E Project Justification: FY 2018 Army | | Date: May 2017 |
|---|---|---|
| **Appropriation/Budget Activity**<br>2040 / 7 | **R-1 Program Element (Number/Name)**<br>PE 0203735A / *Combat Vehicle Improvement Programs* | **Project (Number/Name)**<br>431 / *M113 IMPROVEMENTS* |

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

| Line Item | FY 2016 | FY 2017 | FY 2018 Base | FY 2018 OCO | FY 2018 Total | FY 2019 | FY 2020 | FY 2021 | FY 2022 | Cost To Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| • CARRIER, MOD: *CARRIER, MOD GB1930 WTCV* | - | - | - | - | - | 23.000 | 50.000 | 50.000 | 50.000 | 0 | 173.000 |

**Remarks**

**D. Acquisition Strategy**

The Acquisition strategy will be finalized upon receipt of Department of the Army Directed Requirement with a planned competitive contract award by 3Q FY18. The Army plans to conduct a formal source selection to competitively down select to no more than two vendors. Vendor(s) will complete vehicle design and fabricate vehicle modifications for testing. Overall program schedule could be accelerated if vendor designs are mature.

**E. Performance Metrics**

N/A

| Exhibit R-3, RDT&E Project Cost Analysis: FY 2018 Army | | | Date: May 2017 |
|---|---|---|---|
| Appropriation/Budget Activity<br>2040 / 7 | R-1 Program Element (Number/Name)<br>PE 0203735A / *Combat Vehicle Improvement Programs* | Project (Number/Name)<br>431 / *M113 IMPROVEMENTS* | |

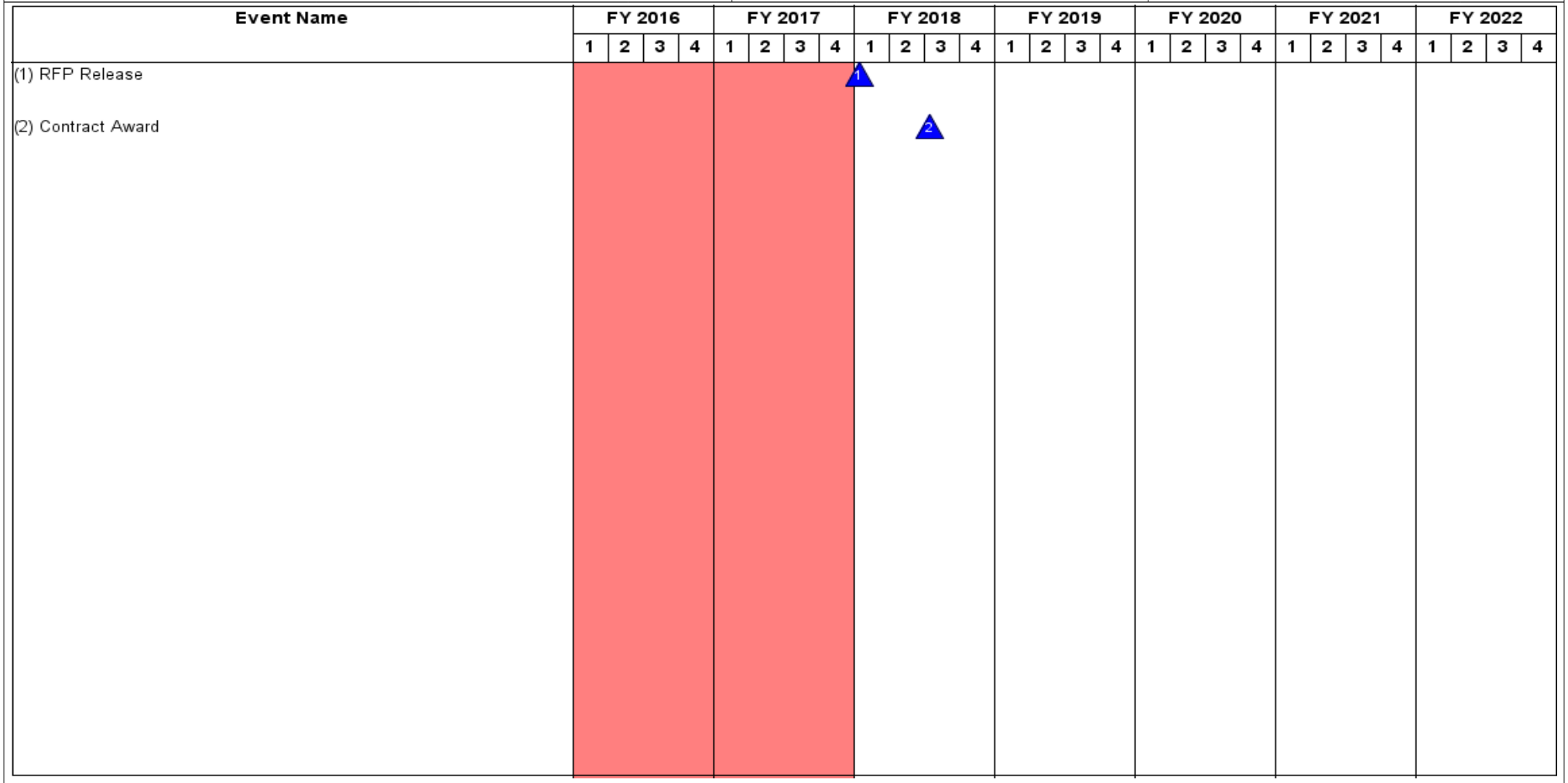
**Management Services ($ in Millions)**

| Cost Category Item | Contract Method & Type | Performing Activity & Location | Prior Years | FY 2016 Cost | FY 2016 Award Date | FY 2017 Cost | FY 2017 Award Date | FY 2018 Base Cost | FY 2018 Base Award Date | FY 2018 OCO Cost | FY 2018 OCO Award Date | FY 2018 Total Cost | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Product Development | C/FFP | TBD : TBD | 0.000 | - | | - | | 14.100 | May 2018 | - | | 14.100 | 0.000 | 14.100 | 0.000 |
| Program Management Support | MIPR | TBD : TBD | 0.000 | - | | - | | 0.900 | Jan 2018 | - | | 0.900 | 0.000 | 0.900 | 0.000 |
| | | **Subtotal** | 0.000 | - | | - | | 15.000 | | - | | 15.000 | 0.000 | 15.000 | 0.000 |

| | Prior Years | FY 2016 | | FY 2017 | | FY 2018 Base | | FY 2018 OCO | | FY 2018 Total | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project Cost Totals** | 0.000 | - | | 0.000 | | 15.000 | | - | | 15.000 | 0.000 | 15.000 | - |

**Remarks**

| Exhibit R-4, RDT&E Schedule Profile: FY 2018 Army | | Date: May 2017 |
|---|---|---|
| **Appropriation/Budget Activity**<br>2040 / 7 | **R-1 Program Element (Number/Name)**<br>PE 0203735A / *Combat Vehicle Improvement Programs* | **Project (Number/Name)**<br>431 / *M113 IMPROVEMENTS* |



| Exhibit R-4A, RDT&E Schedule Details: FY 2018 Army | | Date: May 2017 |
|---|---|---|
| **Appropriation/Budget Activity**<br>2040 / 7 | **R-1 Program Element (Number/Name)**<br>PE 0203735A / *Combat Vehicle Improvement Programs* | **Project (Number/Name)**<br>431 / *M113 IMPROVEMENTS* |

## Schedule Details

| | Start | | End | |
|---|---|---|---|---|
| **Events** | **Quarter** | **Year** | **Quarter** | **Year** |
| RFP Release | 1 | 2018 | 1 | 2018 |
| Contract Award | 3 | 2018 | 3 | 2018 |

| Exhibit R-2A, RDT&E Project Justification: FY 2018 Army | | | Date: May 2017 |
|---|---|---|---|
| Appropriation/Budget Activity<br>2040 / 7 | R-1 Program Element (Number/Name)<br>PE 0203735A / *Combat Vehicle Improvement Programs* | Project (Number/Name)<br>EE2 / *Stryker Improvement* | |

| COST ($ in Millions) | Prior Years | FY 2016 | FY 2017 | FY 2018 Base | FY 2018 OCO | FY 2018 Total | FY 2019 | FY 2020 | FY 2021 | FY 2022 | Cost To Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EE2: *Stryker Improvement* | - | 215.136 | 136.523 | 80.642 | - | 80.642 | 60.523 | 58.076 | 49.193 | 23.768 | 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**

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), 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 protection systems, active protection systems, and an under-armor fire capability for Stryker-equipped reconnaissance troops. The ECP 2 effort will focus on the integration of a suite of complementary Mission Equipment Package (MEP) lethality upgrades (medium caliber weapon, under armor Javelin, common masted sensor, improved target acquisition optics, and other capabilities) that will improve the suppressive fire and armored vehicle engagement capabilities across the Army's Stryker Brigade Combat Teams (SBCTs).

| B. Accomplishments/Planned Programs ($ in Millions) | FY 2016 | FY 2017 | FY 2018 Base | FY 2018 OCO | FY 2018 Total |
|---|---|---|---|---|---|
| ***Title:*** Stryker ECP 1 Development (Engineering/Prototypes) | 70.169 | 14.913 | - | - | - |
| ***Description:*** Funding is provided for the following effort<br><br>***FY 2016 Accomplishments:***<br>ECP1 development engineering efforts, to include, prototype build completion, development and validation of Stryker Operator and Maintenance Manuals, and provisioning of ECP 1 unique parts.<br><br>***FY 2017 Plans:***<br>Continuing ECP 1 engineering efforts, to include finalization of In-Vehicle Network (IVN) design, development, validation and logistic demonstration of revisions to Stryker Operator and Maintenance Manuals, provisioning | | | | | |

| Exhibit R-2A, RDT&E Project Justification: FY 2018 Army | | Date: May 2017 |
|---|---|---|
| **Appropriation/Budget Activity**<br>2040 / 7 | **R-1 Program Element (Number/Name)**<br>PE 0203735A / *Combat Vehicle Improvement Programs* | **Project (Number/Name)**<br>EE2 / *Stryker Improvement* |

| B. Accomplishments/Planned Programs ($ in Millions) | FY 2016 | FY 2017 | FY 2018 Base | FY 2018 OCO | FY 2018 Total |
|---|---|---|---|---|---|
| of ECP 1 unique parts, and incorporating ECP 1 design changes resulting from deficiencies identified during prototype build and development testing. | | | | | |
| ***Title:*** Stryker ECP 1 Training Device Updates<br>***Description:*** Funding is provided for the following effort<br>***FY 2017 Plans:***<br>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<br>***Description:*** Funding is provided for the following effort<br>***FY 2016 Accomplishments:***<br>Began 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 included full-up system level live fire, reliability and maintainability, environmental performance, automotive performance and electronics testing. These events were 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).<br>***FY 2017 Plans:***<br>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).<br>***FY 2018 Base Plans:***<br>Continue test execution activities for the Stryker ECP 1 upgrade technologies, including tests for Communications, Command, and Control (C3) and electronics and information assurance testing. These events will be conducted at various test sites throughout the US including Yuma Proving Ground (YPG), Electronic | 19.138 | 11.048 | 18.760 | - | 18.760 |

| Exhibit R-2A, RDT&E Project Justification: FY 2018 Army | | Date: May 2017 |
|---|---|---|
| **Appropriation/Budget Activity**<br>2040 / 7 | **R-1 Program Element (Number/Name)**<br>PE 0203735A / *Combat Vehicle Improvement Programs* | **Project (Number/Name)**<br>EE2 / *Stryker Improvement* |

| B. Accomplishments/Planned Programs ($ in Millions) | FY 2016 | FY 2017 | FY 2018 Base | FY 2018 OCO | FY 2018 Total |
|---|---|---|---|---|---|
| Proving Ground (EPG) and White Sands Missile Range (WSMR). Conduct Follow-on Operational Test & Evaluation (FOT&E). | | | | | |
| ***Title:*** Stryker ECP 1 Contractor Support to Test<br>***Description:*** Funding is provided for the following effort<br>***FY 2016 Accomplishments:***<br>Contractor technical support (system troubleshooting, maintenance and repair of prototypes during execution of tests) to ECP 1 developmental test.<br>***FY 2017 Plans:***<br>Continue Contractor technical support (system troubleshooting, maintenance and repair of prototypes during execution of tests) to ECP 1 developmental test.<br>***FY 2018 Base Plans:***<br>Continuing Contractor technical support (system troubleshooting, maintenance and repair of prototypes during execution of tests) to ECP 1 developmental test and operational test. | 6.490 | 3.255 | 0.080 | - | 0.080 |
| ***Title:*** Stryker Operational Needs Statement Lethality Development (Engineering/Prototypes)<br>***Description:*** Funding is provided for the following effort<br>***FY 2017 Plans:***<br>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<br>***Description:*** Funding is provided for the following effort<br>***FY 2017 Plans:***<br>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 | - | 11.547 | - | - | - |

| Exhibit R-2A, RDT&E Project Justification: FY 2018 Army | | | Date: May 2017 |
|---|---|---|---|
| **Appropriation/Budget Activity**<br>2040 / 7 | **R-1 Program Element (Number/Name)**<br>PE 0203735A / *Combat Vehicle Improvement Programs* | **Project (Number/Name)**<br>EE2 / *Stryker Improvement* | |

| B. Accomplishments/Planned Programs ($ in Millions) | FY 2016 | FY 2017 | FY 2018 Base | FY 2018 OCO | FY 2018 Total |
|---|---|---|---|---|---|
| ***Description:*** Funding is provided for the following effort<br><br>***FY 2017 Plans:***<br>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). | | | | | |
| ***Title:*** Survivability Enhancements<br>***Description:*** Funding is provided for the following effort<br><br>***FY 2016 Accomplishments:***<br>Began development and fabrication of the installation solution for the Expedited Active Protection System (APS), procured prototype hardware for Stryker platform countermeasure, and planning of characterization requirements.<br>***FY 2017 Plans:***<br>Assessment of force protection and survivability improvements, to include passive and active protection systems.<br>***FY 2018 Base Plans:***<br>Continue assessment of force protection and survivability improvements, to include passive and protection systems. | 16.800 | 14.400 | 2.133 | - | 2.133 |
| ***Title:*** Stryker Engineering Change Proposal (ECP) 2 Development (Engineering/Protoypes)<br>***Description:*** Funding is provided for the following effort<br><br>***FY 2017 Plans:***<br>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.<br>***FY 2018 Base Plans:***<br>Continuing developmental engineering of the Engineering Change Proposal (ECP) 2 lethality upgrades to include under armor Javelin, medium caliber weapon, and improved target acquisition optics. | - | 19.088 | 50.639 | - | 50.639 |
| ***Title:*** Stryker Engineering Change Proposal (ECP) 2 Testing | - | - | 0.380 | - | 0.380 |

| Exhibit R-2A, RDT&E Project Justification: FY 2018 Army | | Date: May 2017 |
|---|---|---|
| **Appropriation/Budget Activity**<br>2040 / 7 | **R-1 Program Element (Number/Name)**<br>PE 0203735A / *Combat Vehicle Improvement Programs* | **Project (Number/Name)**<br>EE2 / *Stryker Improvement* |

| B. Accomplishments/Planned Programs ($ in Millions) | FY 2016 | FY 2017 | FY 2018 Base | FY 2018 OCO | FY 2018 Total |
|---|---|---|---|---|---|
| ***Description:*** Funding is provided for the following effort<br><br>***FY 2018 Base Plans:***<br>Safety, performance, and environmental test planning and execution activities for Stryker ECP2 under armor Javelin and medium caliber upgrades. | | | | | |
| ***Title:*** Government Engineering and Project Management<br>***Description:*** Funding is provided for the following effort<br><br>***FY 2016 Accomplishments:***<br>Government Systems Engineering and Program Management support (labor, travel, training, supplies, and equipment) to support ECP1 development.<br>***FY 2017 Plans:***<br>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).<br>***FY 2018 Base Plans:***<br>Continue 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 an ECP 2 Source Selection Evaluation Board (SSEB). | 5.039 | 19.660 | 8.650 | - | 8.650 |
| **Accomplishments/Planned Programs Subtotals** | 117.636 | 136.523 | 80.642 | - | 80.642 |

| | FY 2016 | FY 2017 |
|---|---|---|
| ***Congressional Add:*** Stryker Operational Needs Statement Lethality Development (Engineering/Prototypes) Congressional Add<br><br>***FY 2016 Accomplishments:*** Began 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. | 70.146 | - |
| ***Congressional Add:*** Stryker Operational Needs Statement Lethality Testing Congressional Add | 6.410 | - |

| Exhibit R-2A, RDT&E Project Justification: FY 2018 Army | | Date: May 2017 |
|---|---|---|
| **Appropriation/Budget Activity**<br>2040 / 7 | **R-1 Program Element (Number/Name)**<br>PE 0203735A / *Combat Vehicle Improvement Programs* | **Project (Number/Name)**<br>EE2 / *Stryker Improvement* |

| | FY 2016 | FY 2017 |
|---|---|---|
| ***FY 2016 Accomplishments:*** Began 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. | | |
| ***Congressional Add:*** Stryker Operational Needs Statement Lethality Contractor Support to Test Congressional Add<br>***FY 2016 Accomplishments:*** 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 the test. | 16.456 | - |
| ***Congressional Add:*** Stryker Operational Needs Statement Lethality Government Engineering and Project Management Congressional Add<br>***FY 2016 Accomplishments:*** Continued Government Systems Engineering and Program Management support (labor, travel, training, supplies, and equipment) to support Operational Needs Statement Lethality development. | 4.488 | - |
| **Congressional Adds Subtotals** | 97.500 | - |

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

| Line Item | FY 2016 | FY 2017 | FY 2018 Base | FY 2018 OCO | FY 2018 Total | FY 2019 | FY 2020 | FY 2021 | FY 2022 | Cost To Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| • Stryker Vehicle: *Stryker Vehicle (G85100)* | 175.474 | 71.680 | - | - | - | - | - | - | - | Continuing | Continuing |
| • Stryker Modification: *Stryker Modification (GM0100)* | 388.385 | 82.681 | 97.552 | - | 97.552 | 384.523 | 510.992 | 602.161 | 602.357 | Continuing | Continuing |
| • Stryker Upgrade: *Stryker Upgrade (G85200)* | 412.043 | 444.561 | - | - | - | - | - | - | - | Continuing | Continuing |

**Remarks**

AAE approval for a 3rd DVH SBCT Brigade of 337 Exchange Vehicles was given on July 26, 2013 (funded in G85100). A successful production decision for ECP 1 was executed on July 22, 2016, which provided approval to begin 4th Brigade Double-V Hull (DVH) Engineering Change Proposal 1 production (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 FY19-22 and Engineering Change Proposal 2 (ECP 2) retrofits in FY19-22.

| Exhibit R-2A, RDT&E Project Justification: FY 2018 Army | | Date: May 2017 |
|---|---|---|
| **Appropriation/Budget Activity**<br>2040 / 7 | **R-1 Program Element (Number/Name)**<br>PE 0203735A / *Combat Vehicle Improvement Programs* | **Project (Number/Name)**<br>EE2 / *Stryker Improvement* |

**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.

On 2 July 2015, ASARC authorization was granted to execute the Stryker Operational Needs Statement (ONS) Lethality effort. ONS Lethality Engineering, Manufacturing, and Development (EMD) contracts for Non-Recurring Engineering (NRE) and Logistics Products Development/Test Support were awarded in Jan 2016 and May 2016, respectively (Cost Plus Incentive-Fee basis). The ONS Lethality Production/Retrofit contract was awarded in May 2016 through an Undefinitized Contract Action (UCA). Definitization of the Fixed Price Incentive Fee (FPIF) Production contract occurred in March 2017.

The ECP 2 effort will focus on the integration of a suite of complementary Mission Equipment Package (MEP) lethality upgrades (medium caliber weapon, under armor Javelin, common masted sensor, improved target acquisition optics, and other capabilities) that will improve the suppressive fire and armored vehicle engagement capabilities across the Army's Stryker Brigade Combat Teams (SBCTs). Army Acquisition Executive (AAE) approval to initiate the ECP2 effort was received in a 30 September 2016 Acquisition Decision Memorandum (ADM).

**E. Performance Metrics**

N/A

| Exhibit R-3, RDT&E Project Cost Analysis: FY 2018 Army | | Date: May 2017 |
|---|---|---|
| **Appropriation/Budget Activity**<br>2040 / 7 | **R-1 Program Element (Number/Name)**<br>PE 0203735A / *Combat Vehicle Improvement Programs* | **Project (Number/Name)**<br>EE2 / *Stryker Improvement* |

**Management Services ($ in Millions)**

| Cost Category Item | Contract Method & Type | Performing Activity & Location | Prior Years | FY 2016 Cost | FY 2016 Award Date | FY 2017 Cost | FY 2017 Award Date | FY 2018 Base Cost | FY 2018 Base Award Date | FY 2018 OCO Cost | FY 2018 OCO Award Date | FY 2018 Total Cost | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Stryker ONS Lethality Project Management | MIPR | PEO GCS/TACOM : Sterling Heights, MI | 0.345 | 4.488 | Jan 2016 | 6.521 | Jan 2017 | - | | - | | - | 2.501 | 13.855 | 0.000 |
| Survivability Enhancements Government Engineering and Projec Management | MIPR | PEO GCS/TACOM : Various | 0.000 | 0.161 | Jan 2016 | - | | - | | - | | - | 0.000 | 0.161 | 0.000 |
| Project Management Office (PMO) | MIPR | PEO GCS/TACOM : Various | 4.576 | 5.039 | Oct 2015 | 13.139 | Oct 2016 | 8.650 | Oct 2017 | - | | 8.650 | 26.382 | 57.786 | 0.000 |
| | | **Subtotal** | 4.921 | 9.688 | | 19.660 | | 8.650 | | - | | 8.650 | 28.883 | 71.802 | 0.000 |

**Product Development ($ in Millions)**

| Cost Category Item | Contract Method & Type | Performing Activity & Location | Prior Years | FY 2016 Cost | FY 2016 Award Date | FY 2017 Cost | FY 2017 Award Date | FY 2018 Base Cost | FY 2018 Base Award Date | FY 2018 OCO Cost | FY 2018 OCO Award Date | FY 2018 Total Cost | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Stryker ECP 1 Development | SS/CPFF | GDLS, MI : Various | 90.122 | 73.049 | Oct 2015 | 14.913 | Oct 2016 | - | | - | | - | Continuing | Continuing | 0.000 |
| Stryker ECP 1 Training Device Updates | MIPR | PEO STRI, FL : Various | 0.000 | - | | 5.980 | Nov 2016 | - | | - | | - | Continuing | Continuing | 0.000 |
| Stryker ONS Lethality Development | SS/CPFF | GDLS, MI : Various | 9.217 | 70.146 | Jan 2016 | 17.967 | Nov 2016 | - | | - | | - | Continuing | Continuing | 0.000 |
| Stryker ECP 2 Development | C/Various | PM CSW; PM CCWS : Various | 0.000 | - | | 19.088 | Jan 2017 | 50.639 | Apr 2018 | - | | 50.639 | Continuing | Continuing | 0.000 |
| Survivability Enhancements | Various | US Army TARDEC, Various : Sterling Heights, MI | 0.000 | 13.124 | Sep 2016 | 14.400 | Dec 2016 | 2.133 | Oct 2017 | - | | 2.133 | Continuing | Continuing | 0.000 |
| | | **Subtotal** | 99.339 | 156.319 | | 72.348 | | 52.772 | | - | | 52.772 | - | - | 0.000 |

| Exhibit R-3, RDT&E Project Cost Analysis: FY 2018 Army | | | Date: May 2017 |
|---|---|---|---|
| Appropriation/Budget Activity<br>2040 / 7 | R-1 Program Element (Number/Name)<br>PE 0203735A / *Combat Vehicle Improvement Programs* | Project (Number/Name)<br>EE2 / *Stryker Improvement* | |

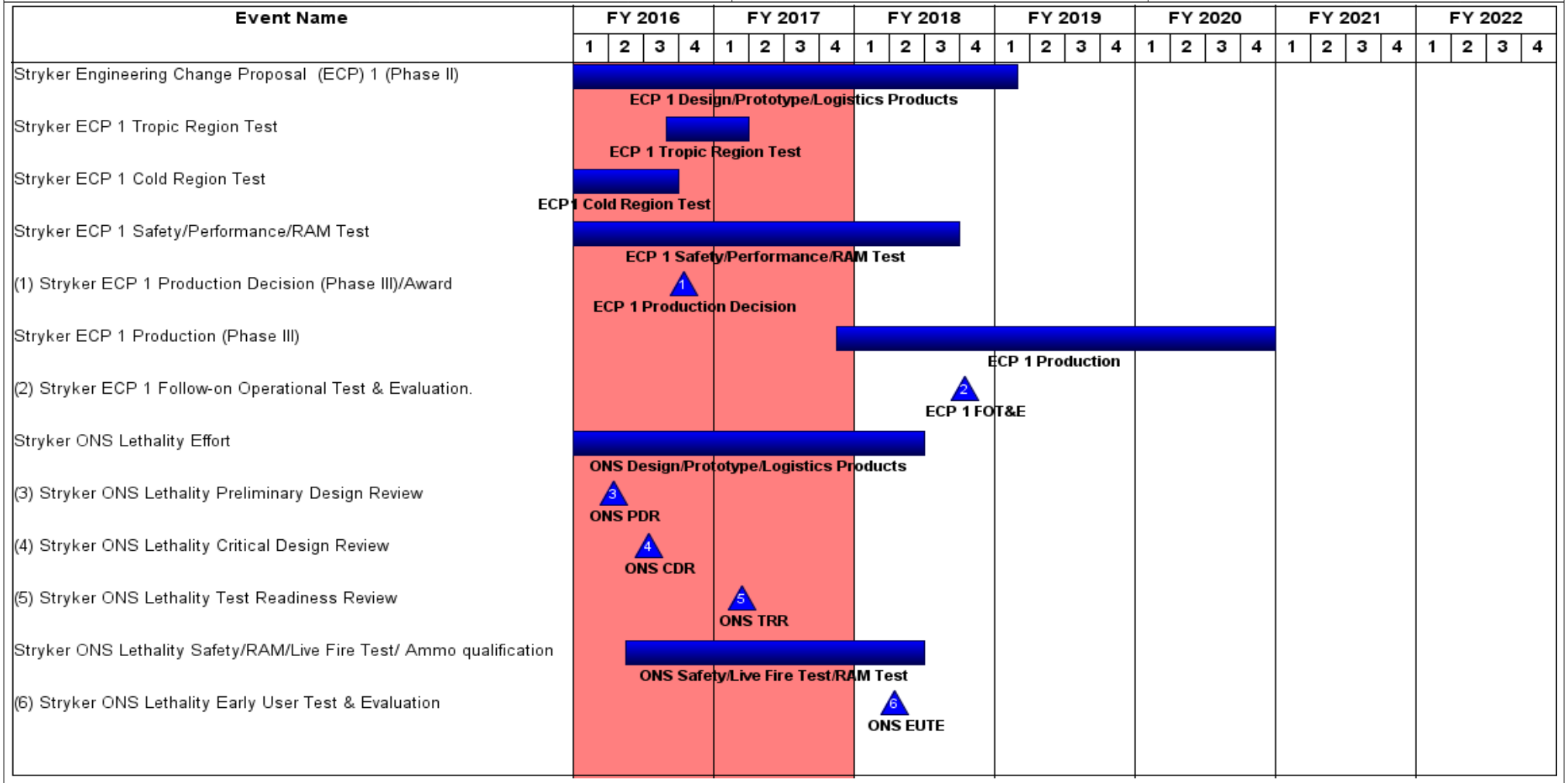
**Test and Evaluation ($ in Millions)**

| Cost Category Item | Contract Method & Type | Performing Activity & Location | Prior Years | FY 2016 Cost | FY 2016 Award Date | FY 2017 Cost | FY 2017 Award Date | FY 2018 Base Cost | FY 2018 Base Award Date | FY 2018 OCO Cost | FY 2018 OCO Award Date | FY 2018 Total Cost | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Stryker ECP 1 Testing | MIPR | Army Test Centers : Various | 6.145 | 19.138 | Dec 2015 | 11.048 | Dec 2016 | 18.760 | Dec 2017 | - | | 18.760 | Continuing | Continuing | 0.000 |
| Stryker ECP 1 Contractor Support to Test | SS/CPFF | GDLS, MI : Various | 14.890 | 6.490 | Feb 2016 | 3.255 | Dec 2016 | 0.080 | Feb 2018 | - | | 0.080 | Continuing | Continuing | 0.000 |
| Stryker ONS Lethality Test | MIPR | Army Test Centers : Various | 0.238 | 6.410 | Feb 2016 | 18.665 | Oct 2016 | - | | - | | - | Continuing | Continuing | 0.000 |
| Stryker ONS Lethality Contractor Support to Test | SS/CPFF | GDLS, MI : Various | 0.000 | 16.456 | Jan 2016 | 11.547 | Dec 2016 | - | | - | | - | Continuing | Continuing | 0.000 |
| Stryker ECP 2 Testing | MIPR | Army Test Centers : Various | 0.000 | - | | - | | 0.380 | Aug 2018 | - | | 0.380 | Continuing | Continuing | 0.000 |
| Survivability Enhancements | MIPR | Army Test Centers : Various | 0.000 | 0.635 | Jan 2016 | - | | - | | - | | - | 0.000 | 0.635 | 0.000 |
| | | **Subtotal** | 21.273 | 49.129 | | 44.515 | | 19.220 | | - | | 19.220 | - | - | 0.000 |

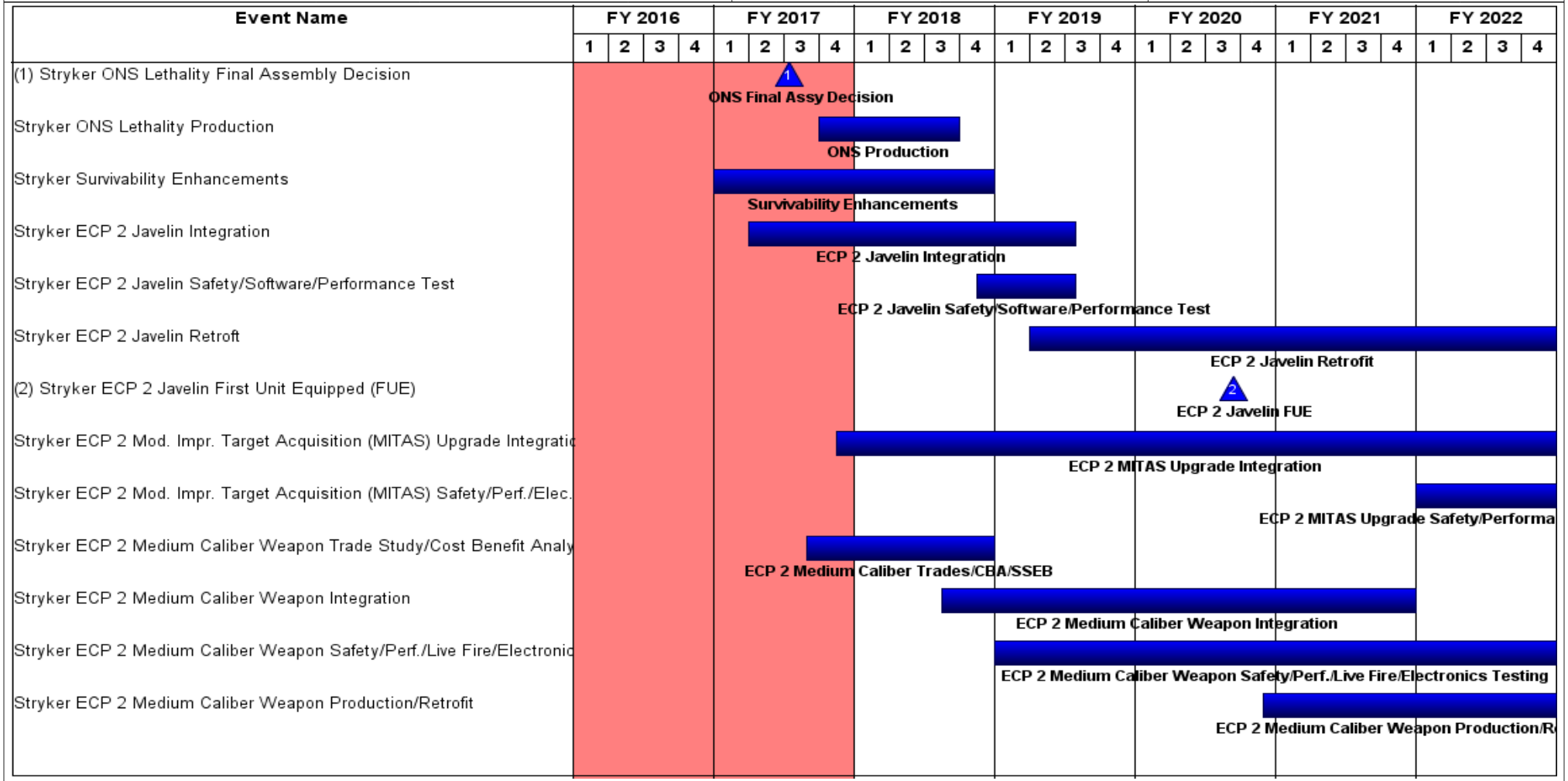
| | Prior Years | FY 2016 | | FY 2017 | | FY 2018 Base | | FY 2018 OCO | | FY 2018 Total | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project Cost Totals** | 125.533 | 215.136 | | 136.523 | | 80.642 | | - | | 80.642 | - | - | - |

**Remarks**

| Exhibit R-4, RDT&E Schedule Profile: FY 2018 Army | | Date: May 2017 |
|---|---|---|
| **Appropriation/Budget Activity**<br>2040 / 7 | **R-1 Program Element (Number/Name)**<br>PE 0203735A / *Combat Vehicle Improvement Programs* | **Project (Number/Name)**<br>EE2 / *Stryker Improvement* |



| Exhibit R-4, RDT&E Schedule Profile: FY 2018 Army | | Date: May 2017 |
|---|---|---|
| **Appropriation/Budget Activity**<br>2040 / 7 | **R-1 Program Element (Number/Name)**<br>PE 0203735A / *Combat Vehicle Improvement Programs* | **Project (Number/Name)**<br>EE2 / *Stryker Improvement* |



| Exhibit R-4A, RDT&E Schedule Details: FY 2018 Army | | Date: May 2017 |
|---|---|---|
| **Appropriation/Budget Activity**<br>2040 / 7 | **R-1 Program Element (Number/Name)**<br>PE 0203735A / *Combat Vehicle Improvement Programs* | **Project (Number/Name)**<br>EE2 / *Stryker Improvement* |

## Schedule Details

| | Start | | End | |
|---|---|---|---|---|
| **Events** | **Quarter** | **Year** | **Quarter** | **Year** |
| Stryker Engineering Change Proposal (ECP) 1 (Phase II) | 1 | 2014 | 1 | 2019 |
| 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 | 3 | 2018 |
| Stryker ECP 1 Production Decision (Phase III)/Award | 4 | 2016 | 4 | 2016 |
| Stryker ECP 1 Production (Phase III) | 4 | 2017 | 4 | 2020 |
| Stryker ECP 1 Follow-on Operational Test & Evaluation. | 4 | 2018 | 4 | 2018 |
| Stryker ONS Lethality Effort | 1 | 2016 | 2 | 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 | 1 | 2017 | 1 | 2017 |
| Stryker ONS Lethality Safety/RAM/Live Fire Test/ Ammo qualification | 2 | 2016 | 2 | 2018 |
| Stryker ONS Lethality Early User Test & Evaluation | 2 | 2018 | 2 | 2018 |
| Stryker ONS Lethality Final Assembly Decision | 3 | 2017 | 3 | 2017 |
| Stryker ONS Lethality Production | 4 | 2017 | 3 | 2018 |
| Stryker Survivability Enhancements | 1 | 2017 | 4 | 2018 |
| Stryker ECP 2 Javelin Integration | 2 | 2017 | 3 | 2019 |
| Stryker ECP 2 Javelin Safety/Software/Performance Test | 4 | 2018 | 3 | 2019 |
| Stryker ECP 2 Javelin Retroft | 2 | 2019 | 4 | 2026 |
| Stryker ECP 2 Javelin First Unit Equipped (FUE) | 3 | 2020 | 3 | 2020 |
| Stryker ECP 2 Mod. Impr. Target Acquisition (MITAS) Upgrade Integration | 4 | 2017 | 4 | 2022 |
| Stryker ECP 2 Mod. Impr. Target Acquisition (MITAS) Safety/Perf./Elec. Test | 1 | 2022 | 4 | 2022 |

| Exhibit R-4A, RDT&E Schedule Details: FY 2018 Army | | Date: May 2017 |
|---|---|---|
| **Appropriation/Budget Activity**<br>2040 / 7 | **R-1 Program Element (Number/Name)**<br>PE 0203735A / *Combat Vehicle Improvement Programs* | **Project (Number/Name)**<br>EE2 / *Stryker Improvement* |

| | Start | | End | |
|---|---|---|---|---|
| **Events** | **Quarter** | **Year** | **Quarter** | **Year** |
| Stryker ECP 2 Medium Caliber Weapon Trade Study/Cost Benefit Analysis/SSEB | 3 | 2017 | 4 | 2018 |
| Stryker ECP 2 Medium Caliber Weapon Integration | 3 | 2018 | 4 | 2021 |
| Stryker ECP 2 Medium Caliber Weapon Safety/Perf./Live Fire/Electronics Testing | 1 | 2019 | 1 | 2023 |
| Stryker ECP 2 Medium Caliber Weapon Production/Retrofit | 4 | 2020 | 4 | 2026 |

| Exhibit R-2A, RDT&E Project Justification: FY 2018 Army | | | Date: May 2017 |
|---|---|---|---|
| Appropriation/Budget Activity<br>2040 / 7 | R-1 Program Element (Number/Name)<br>PE 0203735A / *Combat Vehicle Improvement Programs* | Project (Number/Name)<br>FD8 / *Light Armored Vehicle Improvement* | |

| COST ($ in Millions) | Prior Years | FY 2016 | FY 2017 | FY 2018 Base | FY 2018 OCO | FY 2018 Total | FY 2019 | FY 2020 | FY 2021 | FY 2022 | Cost To Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| FD8: *Light Armored Vehicle Improvement* | - | 1.520 | 0.000 | 3.100 | - | 3.100 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 4.620 |
| Quantity of RDT&E Articles | - | - | - | - | - | - | - | - | - | - | | |

**A. Mission Description and Budget Item Justification**

Light Armored Vehicle improvement program will design, test and modify two Light Armored Vehicles (LAV-25A2s) for Low Velocity Air Drop (LVAD) to inform operational concepts for Infantry Brigade Combat Teams (IBCT) in support of Global Response Force early entry operations. This will directly support the expeditionary maneuver excursion that will be conducted by the XVIII Airborne Corps in FY17-18.

| B. Accomplishments/Planned Programs ($ in Millions) | FY 2016 | FY 2017 | FY 2018 Base | FY 2018 OCO | FY 2018 Total |
|---|---|---|---|---|---|
| ***Title:*** Government Engineering and Project Management | 1.520 | - | 3.100 | - | 3.100 |
| ***Description:*** Funding is provided for the following effort<br><br>***FY 2016 Accomplishments:***<br>Initiated and continued the design phase of developing LAV25 modification kits to support Low Velocity Air Drop (LVAD) capability.<br><br>***FY 2018 Base Plans:***<br>The Army plans to use 6 LAV-25A2s in a training excursion to inform operational concepts for Airborne Infantry Brigade Combat Teams in support of Global Response Force early entry operation and to determine airdrop feasibility. XVIII Airborne Corps will have an opportunity to assess operational employment of LAV-25A2s, develop tactics, techniques and procedures and assess the air drop feasibility through air certification testing. The Army plans to determine whether or not to field additional LAV-25A2s to XVIII Airborne Corps based on results of the excursion and air drop testing.<br><br>In FY2018 the Army will complete air certification testing to determine LAV-25A2 airdrop feasibility. If the excursion is successful and the Army decides to field additional vehicles it is anticipated that additional modifications and testing will be required to address upgrades to survivability, mobility, integrate Army communications equipment and add obsolescence upgrades for commonality with USMC fielded systems. | | | | | |
| **Accomplishments/Planned Programs Subtotals** | 1.520 | - | 3.100 | - | 3.100 |

| Exhibit R-2A, RDT&E Project Justification: FY 2018 Army | | Date: May 2017 |
|---|---|---|
| **Appropriation/Budget Activity**<br>2040 / 7 | **R-1 Program Element (Number/Name)**<br>PE 0203735A / *Combat Vehicle Improvement Programs* | **Project (Number/Name)**<br>FD8 / *Light Armored Vehicle Improvement* |

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

N/A

**Remarks**

**D. Acquisition Strategy**

N/A

**E. Performance Metrics**

N/A