Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Army												Date: February 2018
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 3: *Advanced Technology Development (ATD)*					R-1 Program Element (Number/Name) PE 0603001A / *Warfighter Advanced Technology*							
COST ($ in Millions)	**Prior Years**	**FY 2017**	**FY 2018**	**FY 2019 Base**	**FY 2019 OCO**	**FY 2019 Total**	**FY 2020**	**FY 2021**	**FY 2022**	**FY 2023**	**Cost To Complete**	**Total Cost**
Total Program Element	-	50.004	44.863	39.338	-	39.338	38.238	40.127	39.932	40.733	0.000	293.235
242: *Airdrop Equipment*	-	3.479	5.681	1.630	-	1.630	1.930	2.000	1.800	1.836	0.000	18.356
543: *Ammunition Logistics*	-	2.196	2.326	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	4.522
C07: *Joint Service Combat Feeding Tech Demo*	-	2.134	2.177	1.219	-	1.219	0.771	1.375	1.123	1.298	0.000	10.097
FF6: *Individual Protection*	-	0.000	6.352	11.614	-	11.614	10.986	11.277	10.347	10.554	0.000	61.130
J50: *Future Warrior Technology Integration*	-	25.613	24.894	22.114	-	22.114	18.994	20.413	20.800	21.215	0.000	154.043
J52: *WARFIGHTER ADVANCED TECHNOLOGY INITIATIVES (CA)*	-	12.500	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	12.500
VT5: *Expeditionary Mobile Base Camp Demonstration*	-	4.082	3.433	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	7.515
XW6: *Small Unit Expeditionary Maneuver*	-	0.000	0.000	2.761	-	2.761	5.557	5.062	5.862	5.830	0.000	25.072

Note

The cited work is consistent with the S&T priorities of the U.S. Army Chief of Staff, Assistant Secretary of Defense for Research and Engineering priority focus areas and the Army Modernization Strategy. As such, funding in FY19 for some projects was either merged into XW6 (VT5) or funding reduced from prior years (242) due to shifts in the Army S&T portfolio that emphasizes far term investments as well as consideration of the successful contributions of these projects to current Army Readiness that allow shifts to higher priority investment areas.

A. Mission Description and Budget Item Justification

This Program Element (PE) provides Soldiers and Small Combat Units with the most effective personal clothing, equipment, combat rations, shelters, and logistical support items with the least weight and sustainment burden. This PE supports the maturation and demonstration of technologies associated with aerial delivery of personnel and cargo, rapid ammunition/munitions deployability and resupply, combat rations and combat feeding equipment, combat clothing and personal equipment (including protective equipment such as personal armor, helmets, and eyewear), and expeditionary base camps with an emphasis on emerging operating environments and missions that require expeditionary maneuver. The Projects focus on the challenge of integrating clothing and individual equipment on the Soldier to effectively bridge the gap between humans, technology, and equipment design. The Projects in this PE adhere to Tri-Service Agreements on clothing, textiles, and food with coordination provided through the Cross-Service Warfighter Equipment Board, the Soldier as a System Integrated Concepts Development Team, and the Department of Defense (DoD) Combat Feeding Research and Engineering Board.

Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Army	Date: February 2018
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army I* BA 3: *Advanced Technology Development (ATD)*	**R-1 Program Element (Number/Name)** PE 0603001A *I Warfighter Advanced Technology*

Efforts in this PE support the Army Science and Technology Soldier, Lethality, and Ground Maneuver Portfolios.

Work in this PE is related to, and fully coordinated with, PE 0602786A (Warfighter Technology), PE 0602105A (Materials Technology), PE 0602618A (Ballistics Technology), PE 0602624A (Weapons and Munitions Technology), PE 0602705A (Electronics and Electronic Devices), PE 0602787A (Medical Technology), PE 0602716A (Human Factors Engineering Technology), PE 0602308A (Advanced Concepts and Simulation), PE 0603015A (Next Generation Training and Simulation Systems), PE 0603004A (Weapons and Munitions Advanced Technology), PE 0603005A (Combat Vehicle and Automotive Advanced Technology), PE 0603008A (Electronic Warfare Advanced Technology), PE 0603710A (Night Vision Advanced Technology), PE 0602784A (Military Engineering Technology), and PE 0603734A (Military Engineering Advanced Technology), PE 0603125A (Combating Terrorism Technology Development), and PE 0603772A (Advanced Tactical Computer Science and Sensor Technology).

The cited work is consistent with the S&T priorities of the U.S. Army Chief of Staff, Assistant Secretary of Defense for Research and Engineering priority focus areas and the Army Modernization Strategy.

Work is led, performed, and/or managed by the U.S. Army Research, Development, and Engineering Command (RDECOM).

B. Program Change Summary ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Previous President's Budget	38.831	44.863	34.213	-	34.213
Current President's Budget	50.004	44.863	39.338	-	39.338
Total Adjustments	11.173	0.000	5.125	-	5.125
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	12.500	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-1.310	-			
• Adjustments to Budget Years	-	-	5.125	-	5.125
• FFRDC	-0.017	-	-	-	-

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2017	FY 2018
Project: J52: *WARFIGHTER ADVANCED TECHNOLOGY INITIATIVES (CA)*		
Congressional Add: *Program Increase*	12.500	-
Congressional Add Subtotals for Project: J52	12.500	-

Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Army	Date: February 2018
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army I* BA 3: *Advanced Technology Development (ATD)*	**R-1 Program Element (Number/Name)** PE 0603001A *I Warfighter Advanced Technology*

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2017	FY 2018
Congressional Add Totals for all Projects	12.500	-

Change Summary Explanation

FY17 Congressional increase in J52 Warfighter Advanced Technology Initiatives

FY19 funding increase supports the acceleration of efforts that support senior leader priorities for Soldier Lethality.

Exhibit R-2A, RDT&E Project Justification: PB 2019 Army			Date: February 2018
Appropriation/Budget Activity 2040 / 3	R-1 Program Element (Number/Name) PE 0603001A / *Warfighter Advanced Technology*	Project (Number/Name) 242 / *Airdrop Equipment*	

COST ($ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
242: *Airdrop Equipment*	-	3.479	5.681	1.630	-	1.630	1.930	2.000	1.800	1.836	0.000	18.356

A. Mission Description and Budget Item Justification

This Project matures and demonstrates equipment and innovative techniques for precision aerial delivery of cargo and personnel. Aerial delivery is a key capability for rapid force projection and global precision delivery. These efforts are designed to advance state of the art precision delivery technologies such as parachutes, guidance, navigation, and control (GNC) components and subsystems, tracking sensors, software algorithms, and safety rigging which integrate with currently equipped aircraft, unmanned aerial systems (UAS), and advanced rotary wing aircraft. These efforts provide the Warfighter with highly accurate, timely cargo/payload delivery and resupply in all terrain and weather conditions. Precision delivery/resupply reduces vulnerability of ground Soldiers, aircraft, and aircrew. Precision aerial delivery supports remote warfare with activities such as placement of battlefield sensors, reduction of Soldier load, and initial delivery of key expeditionary base camp assets. Demonstrated technologies transition to Product Manager (PM) Force Sustainment Systems (PM FSS), PM-Soldier Clothing and Individual Equipment (PM SCIE) as well as other Army PMs.

Efforts in this Project support the Army Science and Technology Soldier Portfolio.

Work in this Project is fully coordinated with Program Element (PE) 0602786A (Warfighter Technology).

The cited work is consistent with the S&T priorities of the U.S. Army Chief of Staff, Assistant Secretary of Defense for Research and Engineering priority focus areas and the Army Modernization Strategy. As such, funding in FY19 is reduced from prior years due to shifts in the Army S&T portfolio that emphasizes far term investments as well as consideration of the contributions of this project to current Army Readiness.

This work supports Anti-Access/Area Denial (A2/AD) and manned-unmanned teaming (MUM-T) operational concepts by demonstrating precision aerial delivery and airdrop from non-traditional platforms.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019
Title: Airdrop/Aerial Delivery	3.479	5.681	1.630
Description: This effort matures and demonstrates parachute materials and designs, precision guidance and navigation software and hardware, and tracking sensors and safety devices to increase the accuracy of delivering cargo to remote locations and/or complex terrains. This effort also provides technologies that increase safety during personnel insertions into theaters of operation. This work further evolves breakthroughs from PE 0602786A/Project 283 and is coordinated with PE 0602786A/Project VT4. This effort supports capability demonstrations for the Army Top Challenge of easing overburdened Soldiers in small units through the use of tactical aerial resupply technologies, and supporting Anti-Access/Area Denial (A2/AD) and manned-unmanned teaming (MUM-T) operational concepts by demonstrating airdrop from non-traditional platforms.			

Exhibit R-2A, RDT&E Project Justification: PB 2019 Army		Date: February 2018
Appropriation/Budget Activity 2040 / 3	**R-1 Program Element (Number/Name)** PE 0603001A / *Warfighter Advanced Technology*	**Project (Number/Name)** 242 / *Airdrop Equipment*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019
FY 2018 Plans: Optimize autonomously guided system technologies to reduce system cost and to support accurate and survivable landings in urban and jungle environments. Technologies include soft-landing systems for Joint Precision Airdrop System (JPADS) and high fidelity instrumentation for characterization of payload impact; mature advanced parachute control vent positioning to expand flight envelope of airdrop systems; demonstrate improvements to the static line reserve parachute automatic activation device prototype on T-11R parachute with mannequins to determine its ability to detect and identify various malfunctions and towed jumper scenarios. ***FY 2019 Plans:*** Will demonstrate precision aerial delivery software and hardware components in a GPS denied/degraded environment as well as in Dense, Urban, Complex Terrain. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Precision aerial delivery demonstration efforts in FY19 are being reduced to support senior leader priorities for Soldier Lethality.			
Accomplishments/Planned Programs Subtotals	3.479	5.681	1.630

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2019 Army			Date: February 2018
Appropriation/Budget Activity 2040 / 3	R-1 Program Element (Number/Name) PE 0603001A / *Warfighter Advanced Technology*	Project (Number/Name) 543 / *Ammunition Logistics*	

COST ($ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
543: *Ammunition Logistics*	-	2.196	2.326	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	4.522

Note

This project completes in FY18

A. Mission Description and Budget Item Justification

This Project matures and demonstrates technologies for rapidly deploying and resupplying munitions while also improving the return of unused ammunition from deployment. This effort contributes to force readiness and reduction in the logistics footprint through improvements in Materials Handling Equipment (MHE), ammunition, and lethality packaging/palletization, explosives safety, weapons re-arm, and asset throughput/management.

Efforts in this Project support the Army Science and Technology Lethality and Ground Maneuver Portfolios. Work in this Project is related to, and fully coordinated with Program Element (PE) 0603005A and PE 0602601A.

The cited work is consistent with the Assistant Secretary of Defense, Research and Engineering Science and Technology focus areas and the Army Modernization Strategy.

This effort completed in FY18.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019
Title: Automated Supply Point-Scalable	2.196	2.326	-
Description: This effort demonstrates globally responsive supply point operations capable of meeting predictive demand through automated cargo identification, handling, and movement technologies. ***FY 2018 Plans:*** Complete development of Automated Supply Point-Scalable software prototype technology demonstrator to support basic automation of ammunition supply point (ASP) warehouse management operations at the pallet and sub-pallet levels, with a focus on demonstrating the basic concept of automated control of operations, manned and unmanned teaming, situational monitoring, interfacing and control of robotic movement resource devices, and supply configuration tracking; demonstrate ammunition resupply technologies. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Effort was realigned to higher priority Army Modernization efforts.			
Accomplishments/Planned Programs Subtotals	2.196	2.326	-

Exhibit R-2A, RDT&E Project Justification: PB 2019 Army		Date: February 2018
Appropriation/Budget Activity 2040 / 3	**R-1 Program Element (Number/Name)** PE 0603001A / *Warfighter Advanced Technology*	**Project (Number/Name)** 543 / *Ammunition Logistics*

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2019 Army			Date: February 2018
Appropriation/Budget Activity 2040 / 3	R-1 Program Element (Number/Name) PE 0603001A / *Warfighter Advanced Technology*	Project (Number/Name) C07 / *Joint Service Combat Feeding Tech Demo*	

COST ($ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
C07: *Joint Service Combat Feeding Tech Demo*	-	2.134	2.177	1.219	-	1.219	0.771	1.375	1.123	1.298	0.000	10.097

A. Mission Description and Budget Item Justification

This Project matures and demonstrates technologies for military combat feeding systems and combat rations. Areas of emphasis include: enhanced nutrient composition to maximize cognitive and physical performance on the battlefield; cutting edge food stabilization and preservation techniques that increase the variety and quality of rations used by the Joint Services; novel ration packaging solutions to minimize degradation of combat rations during storage; field portable biosensors for food-borne pathogen detection and identification as well as predictive modeling tools to protect the Warfighter from food-borne illnesses. This Project demonstrates combat feeding equipment with reduced logistics (in component parts, weight, volume, fuel, and water) and labor requirements, while improving the quality of food service. The Project, a Department of Defense (DoD) program for which the Army has Executive Agent responsibility, provides technology development for Joint Service Combat Feeding. The DoD Combat Feeding Research and Engineering Board provides oversight for this project. Demonstrated field feeding equipment is transitioned to Product Manager Force Sustainment Systems (PM FSS), Product Manager Combat Support Equipment (PM CSE), Naval Sea Systems Command (NAVSEA)/Naval Supply Systems Command (NAVSUP), and/or United States Air Force Basic Expeditionary Airfield Resources (BEAR) Program Office. Demonstrated ration technologies are transitioned to the Combat Feeding Directorate for Advanced Component Development & Prototypes under Program Element (PE) 0603747A (Soldier Support and Survivability).

Efforts in this Project support the Army Science and Technology Soldier/Squad Portfolio.

Work in this Project complements and is fully coordinated with PE 0602787A (Medical Technology) and PE 0602786A (Warfighter Technology).

The cited work is consistent with the S&T priorities of the U.S. Army Chief of Staff, Assistant Secretary of Defense for Research and Engineering priority focus areas and the Army Modernization Strategy.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019
Title: Joint Service Combat Feeding Technical Demonstration	2.134	2.177	1.219
Description: This effort matures and demonstrates novel nutritional biochemistry, food processing, and packaging technologies to enhance nutrition, improve food stabilization, and optimize ration packaging to support Warfighter physical and cognitive performance on the battlefield. This effort will demonstrate technologies in support of the Defense Health Agency Veterinary Services (DHA VS) to improve field detection and identification capabilities of chemical and biological threats in foods. This effort provides new threat detection tools and sensors for food inspectors. This effort also demonstrates equipment and energy technologies to expand the capability and reduce the logistics footprint of field feeding systems. This work further evolves breakthroughs from PE 0602786A/Project H99 and is coordinated with PE 0602787A/Project 869.			
FY 2018 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2019 Army		Date: February 2018
Appropriation/Budget Activity 2040 / 3	**R-1 Program Element (Number/Name)** PE 0603001A / *Warfighter Advanced Technology*	**Project (Number/Name)** C07 / *Joint Service Combat Feeding Tech Demo*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019
Mature technologies that enable the use of carbon dioxide as a refrigerant in cold storage units to reduce cost, improve efficiency, and eliminate reliance on hydrofluorocarbons; demonstrate high efficiency foodservice systems that reduce generation of grey-water and water demand; demonstrate technology to condition battlefield fuels for use in commercial gas-fired appliances to simplify acquisition and improve supportability; validate food safety tools to mitigate exposure to foodborne pathogens and food contaminants; demonstrate ration components with increased phytochemical content to optimize warfighter performance; mature novel food processing technologies to increase consumption of fruits and vegetables in tactical environments; demonstrate calorically dense ration components with reduced weight and cube; validate retention of required barrier properties in novel packaging prototypes. ***FY 2019 Plans:*** Will mature and demonstrate ration components to improve readiness, performance and recovery from strenuous exercise to prevent energy deficits that negatively impact mission outcomes; validate food pathogen enrichment methods to identify food pathogens prior to consumption; demonstrate prototype refrigeration technologies to reduce the use of conventional refrigerants. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** The funding reduction in FY19 is due to the refrigerant work that supports cold storage and the reduction in water demand work all coming to an end.			
Accomplishments/Planned Programs Subtotals	2.134	2.177	1.219

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2019 Army			Date: February 2018
Appropriation/Budget Activity 2040 / 3	R-1 Program Element (Number/Name) PE 0603001A / *Warfighter Advanced Technology*	Project (Number/Name) FF6 / *Individual Protection*	

COST ($ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
FF6: *Individual Protection*	-	0.000	6.352	11.614	-	11.614	10.986	11.277	10.347	10.554	0.000	61.130

A. Mission Description and Budget Item Justification

This Project matures, demonstrates, and integrates Soldier protective clothing and equipment required to enhance Soldier survivability from multiple battlefield threats, impact unit readiness, and potentially debilitate Soldiers. Threats are characterized as combat threats (e.g. flame and thermal, blast and ballistic, multispectral sensors, and laser threats), environmental threats (e.g. cold, heat, wet, vector, water contamination, concealment, antimicrobial, etc.), and Soldier system components and system limitations (e.g. size, weight, and bulk). This effort includes the demonstration and validation of integrated technologies, novel subsystems/systems, and test methods related to the development of personnel armor, helmets, hearing protection, eyewear, uniforms, hand-wear, footwear, and other clothing and individual equipment items. Efforts apply human systems integration principles and practices to protective equipment designs to advance the understanding of trade-offs between protection, lethality and mobility.

Efforts in this Project support the Army Science and Technology Soldier Portfolio.

Work in this Project complements and is fully coordinated with Program Elements (PEs) 0602786A (Warfighter Technology), PE 0602716A (Human Factors Engineering Technology), and PE 0602705A (Electronics and Electronic Devices).

The cited work is consistent with the S&T priorities of the U.S. Army Chief of Staff, Assistant Secretary of Defense for Research and Engineering priority focus areas and the Army Modernization Strategy.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019
Title: Soldier/Small Unit Multi-Threat Protection	-	6.352	4.214
Description: This effort focuses on maturing and demonstrating multifunctional protective component materials, sub-systems, protection technologies, and test methodologies that have the potential to significantly increase protection afforded by Soldier clothing and individual protective equipment. This effort also focuses on the maturation and demonstration of ballistic, blast, and integrated protection technologies that support tradeoff optimization in component design. Work includes small arms and fragmentation protection, flame and thermal, environmental, and multispectral concealment capabilities as well as novel hydration and water purification technologies for the individual Soldier. This work is fully coordinated with PE 0602786A/Project H98, PE 0602716A/Project H70, and PE 0602705A/Project H94. Demonstrated technologies transition to various Program Executive Office (PEO) Soldier Product Managers. This effort supports Force Protection capability demonstrations for Soldiers and Small Units.			
FY 2018 Plans: Mature and demonstrate an optimized material solution and uniform architecture to address jungle environmental extremes; mature new material systems specifically designed for cold/extreme cold environments and integrate these systems into a			

Exhibit R-2A, RDT&E Project Justification: PB 2019 Army		Date: February 2018
Appropriation/Budget Activity 2040 / 3	**R-1 Program Element (Number/Name)** PE 0603001A / *Warfighter Advanced Technology*	**Project (Number/Name)** FF6 / *Individual Protection*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019
newly optimized cold clothing ensemble; demonstrate anthropometrically correct flame resistant hand and head test equipment and methodology; mature and demonstrate repellent capabilities to enhance insect vector protection; optimize models that support virtual camouflage testing based on realistic terrain backgrounds; demonstrate the ballistic performance from the latest developments in high performance ballistic materials integrated into a suite of common helmet designs; optimize comprehensive hearing protection test methodology by collecting operational sound profiles for integration with test equipment/methods; optimize predictive tools that allow for the advancement of material system baselines for regionally specific uniform configurations with an emphasis on cold weather protection. ***FY 2019 Plans:*** Will demonstrate an optimized material solution specifically designed to maximize Soldier protection in austere and extreme cold environments to enable Soldiers to operate effectively for extended mission durations and reduce traumatic injury induced by extreme cold climates; will optimize materiel solutions for thermal signature management that reduces the probability of Soldier detection in response to the increase of sensors and Soldier-borne technologies; will optimize and demonstrate performance of advanced textile printing capabilities at the component level that can impart multiple functionalities (signature management, vector protection, flame resistance, etc.) in a single, more cost-effective process and more durable capability; will advance insect vector repellent testing capabilities in order to assess vector protection material performance at the system level quantify operational effectiveness to mitigate transmission of infectious diseases; will develop novel scientific-based test methods to correlate material, system and Soldier performance to inform future requirements. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Funding realigned to higher Army priorities.			
Title: Soldier Ballistic and Blast Protection	-	-	7.400
Description: This effort focuses on maturing and demonstrating ballistic and blast personal protection capabilities worn by the individual Soldier and validating advanced test methods of personal protective equipment against small arms, fragmentation and blast threats. These developmental efforts focus on the objective of significantly increase the survivability afforded by Soldier individual protective equipment by increasing sub-system and system material performance against intended threats, reduce sub-system and system weight and inform future requirements linking threat lethality to Soldier survivability. This work is fully coordinated with PE 0602786A/Project H98, PE 0602716A/Project H70, and PE 0602705A/Project H94. Demonstrated technologies transition to various Program Executive Office (PEO) Soldier Product Managers. This effort supports Force Protection capability demonstrations for Soldiers and Small Units. ***FY 2019 Plans:*** Will optimize and mature helmet forming processes, material layups, and architectures to manufacture helmets with state of the art, high performance polyethylene materials to demonstrate ballistic performance improvements in prototype helmets designed			

Exhibit R-2A, RDT&E Project Justification: PB 2019 Army		Date: February 2018
Appropriation/Budget Activity 2040 / 3	**R-1 Program Element (Number/Name)** PE 0603001A / *Warfighter Advanced Technology*	**Project (Number/Name)** FF6 / *Individual Protection*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019
for small arms threats; exploit ballistic fiber, tape and sheet goods materials in helmet processing techniques to control material layup to reduce inefficiencies in standard processing and exploit gains in ballistic protection and weight reduction; continue the development of an innovative ballistic helmet test methodology to improve behind-helmet blunt trauma measurement capabilities and correlate data with head/brain injury to inform future survivability requirements for protective helmets; develop helmet and torso non-destructive safety evaluation technology to produce a capability that will assess personal protective equipment efficacy; optimize and mature head-borne shock tube test methodology as a means to improve blast-over pressure profiles that can be correlated to operational blast environment conditions; integrate hearing protection into eyewear platforms to enhance individual Soldier hearing protection and maximize operational situational awareness in head-borne protection platforms; exploit existing and emerging ballistic resistant materials in new system designs and architectures against emerging small arms threats to define near term performance trade space. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Increase funding to support the acceleration of ballistic and blast protection designs and architectures.			
Accomplishments/Planned Programs Subtotals	-	6.352	11.614

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2019 Army			Date: February 2018
Appropriation/Budget Activity 2040 / 3	R-1 Program Element (Number/Name) PE 0603001A / *Warfighter Advanced Technology*	Project (Number/Name) J50 / *Future Warrior Technology Integration*	

COST ($ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
J50: *Future Warrior Technology Integration*	-	25.613	24.894	22.114	-	22.114	18.994	20.413	20.800	21.215	0.000	154.043

A. Mission Description and Budget Item Justification

This Project matures, demonstrates, and integrates lightweight and multifunctional materials and components to provide the Soldier and small units with the most effective protection and mobility systems. This Project also invests in understanding the trade-offs of integrating state-of-the-art technology with Soldiers' personal protection, electronics connectivity, power and energy, user interfaces and display content, and other mission specific equipment that seeks to reduce physical weight, cognitive burden, and sustainment needs of the small unit. This Project develops, matures, and maintains a Soldier Systems Engineering Architecture (SSEA) framework that represents human factors consideration in development of major Army platforms. Efforts in this Project focus on integrating and demonstrating system-level personal protection, durable Soldier protective clothing and individual equipment, environmental threats, and power management solutions. In addition, special focus is on understanding and demonstrating the impacts of physical and cognitive load on Soldier mission performance by implementing strategies to reduce load and/or optimize loads to reduce injuries, and the creation of user interfaces that mitigate the impact of increasing technologies and sensors worn and carried by Soldiers. These efforts integrate geographically dispersed laboratory environments to conduct comprehensive assessments and report the technical viability of Soldier system solutions and conducts field demonstrations to obtain relevant feedback for user acceptance and performance validation. This Project also matures and demonstrates mission command and power and energy technologies for the dismounted Soldier and small unit operating in a networked operating environment.

In Fiscal Year (FY) 18, efforts entitled Soldier/Small Unit Ballistic and Blast Protection and Soldier/Small Unit Multi-Threat Protection will be moved from Project J50 to Project FF6.

Efforts in this Project support the Army Science and Technology Soldier Portfolio.

Work in this Project complements and is fully coordinated with Program Element (PE) 0602786A (Warfighter Technology), PE 0602618A (Ballistics Technology), PE 0602105A (Materials Technology), PE 0602787A (Medical Technology), PE 0602716A (Human Factors Engineering Technology), PE 0602308A (Advanced Concepts and Simulation), PE 0603015A (Next Generation Training and Simulation Systems), PE 0602705A (Electronics and Electronic Devices), PE 0603710A (Night Vision Advanced Technology), PE 0602624A (Weapons and Munitions Technology), PE 0603005A (Combat Vehicle and Automotive Advanced Technology), PE 0603004A (Weapons and Munitions Advanced Technology), and PE 0603008A (Command, Control, Communications Adv Technology).

The cited work is consistent with the S&T priorities of the U.S. Army Chief of Staff, Assistant Secretary of Defense for Research and Engineering priority focus areas and the Army Modernization Strategy.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019
Title: Soldier/Small Unit Ballistic and Blast Protection	4.202	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2019 Army		Date: February 2018
Appropriation/Budget Activity 2040 / 3	**R-1 Program Element (Number/Name)** PE 0603001A / *Warfighter Advanced Technology*	**Project (Number/Name)** J50 / *Future Warrior Technology Integration*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019
Description: This effort utilizes a cross-disciplinary, human-focused approach to mature and demonstrate technologies that optimize tradeoffs in ballistic and blast protective component design. This effort focuses on maturing and demonstrating proven components that have the potential to significantly increase protection for individual Soldiers and/or reduce physical load at equal or better capability. This work is fully coordinated with PE 0602786A/Project H98, PE 0602716A/Project H70, and PE 0602705A/ Project H94. Demonstrated technologies will transition to various Program Executive Office (PEO) Soldier Product Managers. This effort supports Force Protection capability demonstrations for Soldiers and Small Units. This effort will end in FY18. Future work will be included in Soldier/Small Unit Multi-Threat Protection under Project FF6.			
Title: Soldier/Small Unit Multi-Threat Protection ***Description:*** This effort focuses on maturing and demonstrating multifunctional protective component materials, sub-systems, protection technologies, and test methodologies that have the potential to significantly increase protection of individual Soldiers. This includes the maturation and demonstration of improved flame, thermal, environmental, and multispectral concealment capabilities as well as novel desalinization and purification technologies for individual Soldier hydration. This work is fully coordinated with PE 0602786A/Project H98, PE 0602716A/Project H70, and PE 0602705A/Project H94. Demonstrated technologies transition to various PEO Soldier Product Managers. This effort supports Force Protection capability demonstrations for Soldiers and Small Units. This effort will be moved from Project J50 to Project FF6 in FY18.	4.836	-	-
Title: Soldier Systems Engineering Architecture (SSEA) ***Description:*** This effort pursues a mature and maintainable architecture for a biological (human) platform that utilizes a common Soldier, Equipment, Task (SET) framework at the system level. The architecture will provide a unifying performance construct that considers human dimension and equipment capability resulting in a desired tactical outcome by applying systems engineering processes, analytical tools, and models to assess the complex Soldier as a System and conduct system level trade-offs. This capability is used to assess new and emerging Soldier clothing and equipment components as well as configurations against established baselines using Human-in-the-Loop principles. This effort also matures and integrates associated foundational efforts including human performance assessment measures and evaluation devices required at various testing locations. This effort develops standardized methodologies required for demonstrations to provide operationally relevant assessments. This effort is coordinated with PE 0602716A/Project H70, PE 0602786A/Project H98, 0603015A/Project S28, PE 0603710A/Project K70, PE 0602308A/Project C90, PE 0602787A/Project 869, and PE 0603004A/Project 232. This framework effort will end in FY18 and transition to human systems integrators for Soldier system development and design. ***FY 2018 Plans:*** Conduct analyses of the use cases developed in FY 2017 to demonstrate the benefits of SSEA against specified objectives. Analyses will include: the efficacy and benefits of systems engineering processes, the utility of SSEA tools and processes for	10.858	14.285	-

Exhibit R-2A, RDT&E Project Justification: PB 2019 Army		Date: February 2018
Appropriation/Budget Activity 2040 / 3	**R-1 Program Element (Number/Name)** PE 0603001A / *Warfighter Advanced Technology*	**Project (Number/Name)** J50 / *Future Warrior Technology Integration*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019
development of the Soldier as a System, and the benefits of utilizing SSEA during early capability development; improve SSEA tools and processes by simplifying user functions and automating operations; demonstrate the application of human performance assessment methods for powered and unpowered physical human augmentation technologies; identify and validate individual Soldier cognitive metrics sensitive to equipment load and fatigue in a simulated environment. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Effort is complete in FY18.			
Title: Soldier and Small Unit Mission Command/Situational Awareness (SA) and Power and Energy Integration ***Description:*** This effort matures and demonstrates mission command and power and energy technologies for the dismounted Soldier and small unit. The goal is to fully support the situational awareness mission information tools and power needs of a dismounted mission in an electronically equipped battlefield. This effort is fully coordinated with PE 0602705A/Project H11, PE0602705A/Project H94, and PE 0603710A/Project K70. ***FY 2018 Plans:*** Mature distributed power management concepts and technologies for efficiently transferring power on the Soldier; mature advanced kinetic energy electrical components for improved efficiency of the backpack energy harvester; mature and demonstrate Soldier data management tools and assess the transfer of wired and wireless data between Soldier borne electronic devices; mature and demonstrate advanced Global Positioning System (GPS) denied navigation and environmental sensing algorithms for Soldier borne sensor platforms; integrate and assess Soldier carried unmanned ground and aerial vehicles and physiological status monitor sensors within the Nett Warrior system architecture to understand the human systems integration challenges of interfacing Soldiers with sensors and robotics. ***FY 2019 Plans:*** Will mature Soldier wearable power sources and energy harvesting components to reduce the overall weight of Soldier carried power equipment; will characterize the power profile of Soldier-worn electronic component technologies within a Soldier system level configuration and against approved mission scenarios; will demonstrate advanced Global Positioning System (GPS) denied navigation and environmental sensing algorithms for Soldier borne sensor platforms; will mature and demonstrate highly mobile expeditionary maneuver platform technology that includes signature management/decoy and high mobility mission command applications that enable on-demand resupply capabilities. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Funding increase to support additional research in the areas of Soldier Power and Energy and Situational Awareness in order to meet senior leader priorities.	2.359	5.936	7.478
Title: Soldier Interfaces (formerly Soldier and Small Unit Human Systems Performance)	3.358	4.673	7.454

Exhibit R-2A, RDT&E Project Justification: PB 2019 Army		Date: February 2018
Appropriation/Budget Activity 2040 / 3	**R-1 Program Element (Number/Name)** PE 0603001A / *Warfighter Advanced Technology*	**Project (Number/Name)** J50 / *Future Warrior Technology Integration*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019
Description: This effort matures and demonstrates low-cognitive workload user interfaces for display and control of dismounted Soldier mission command systems to enhance interactions of Soldiers and systems required to react effectively on the battlefield. Applies human systems engineering principles to develop design guidelines and techniques for integrating Soldiers and complex technical systems by assessing Soldier responses and capabilities in operational contexts. Matures and validates human performance metrics to design/assess systems and user interfaces to ensure that interactions between humans and machines provides effective operation and control to aid Soldier decision-making processes. This work is fully coordinated with PE 0602786A/Project H98, PE 0602716A/Project H70, and PE 0602705A/Project H94. Technologies, metrics, and tools developed in this effort will transition to PEO Product Managers and Training and Doctrine Command (TRADOC) and be integrated into the SSEA and Systems Integration Laboratory environment. The title of this effort in 0603001/J50 changes from Soldier and Small Unit Human Systems Performance to Soldier Interfaces in FY19. ***FY 2018 Plans:*** Mature a virtual testbed that can be used to evaluate novel situational awareness technologies for their impact on cognitive workload as it relates to mission performance; develop basic and individualized tactile, audio, and visual cueing information portrayal software standards to enable streamlining of systems from Nett Warrior to novel future situational awareness technologies; exploit human systems integration tools to baseline physical characteristics and performance requirements of enhanced Soldier equipment and interfaces. ***FY 2019 Plans:*** Will validate single joint (ankle) exoskeleton for reduced metabolic cost and demonstrate operational efficacy for utilization in loaded walking/running; mature single and/or multi-joint exo systems for enhanced mobility and endurance; mature exoskeleton technologies for Soldier tasks such as Logistics (e.g. low mobility lift assist technology) and Infantry (high mobility tactical maneuvering for dismount application); demonstrate Soldier/squad optimization utilizing novel technologies/platforms with validated measures/metrics of human performance by demonstrating the operational impact of decreasing metabolic cost with a device that assists propulsion during locomotion while carrying an external load; provide knowledge product with findings from study that examined tactical timelines for measures of human and operational performance at the small unit level to inform future system development aimed at optimizing Soldier performance. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Funding increase to support the acceleration of exoskeleton capabilities which directly support senior leader priorities.			
Title: Soldier Sensors and Robotics Architectures	-	-	7.182
Description: This effort builds and matures architectures that link dismounted Soldiers to air and ground robotics platforms. Enables small Soldiers-borne and operated autonomous systems that function as scouts, load carriers, resupply platforms, and/or communication nodes to enable greater reach and expeditionary dismounted maneuver. Applies complex Human Soldier			

Exhibit R-2A, RDT&E Project Justification: PB 2019 Army		Date: February 2018
Appropriation/Budget Activity 2040 / 3	**R-1 Program Element (Number/Name)** PE 0603001A / *Warfighter Advanced Technology*	**Project (Number/Name)** J50 / *Future Warrior Technology Integration*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019
Integration principles to air and ground control and teleoperation for emerging robotic vehicles and sensors display content. Integrates reconnaissance and surveillance sensors and robotics with Nett Warrior system. This work is fully coordinated with PE 0602786A/Project H98, PE 0602716A/Project H70, and PE 0602705A/Project H94. Technologies, metrics, and tools developed in this effort will transition to PEO Product Managers and Training and Doctrine Command (TRADOC) and be integrated into the Soldier Systems architecture and Systems Integration Laboratory environment. This effort is new to 0603001A/J50 in FY19. ***FY 2019 Plans:*** Will mature and demonstrate sensors and robotics architectures that enable dismounted linkages and ease of integration for existing and emerging ground and aerial robots; will mature Soldier-organic data management and distribution technologies for integration into Soldier-borne electronic devices, sensors, and robotics; will develop an integration architecture of sensors and robotics for the Nett Warrior system to increase situational awareness and stand-off protection; will identify common sensors that convey alerts and summary data within a sensor configuration that synthesizes data from multiple sensors; will increase image and sensing product quality and timeliness from small unit sensors and robotic platforms; will identify commercial virtual environment software to assess Nett Warrior and sensor and robotic interfaces in a dynamic mission context. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Effort supports Army S&T strategy priorities of autonomous systems operated or worn by Soldiers.			
Accomplishments/Planned Programs Subtotals	25.613	24.894	22.114

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2019 Army												Date: February 2018
Appropriation/Budget Activity 2040 / 3					R-1 Program Element (Number/Name) PE 0603001A / *Warfighter Advanced Technology*				Project (Number/Name) J52 / *WARFIGHTER ADVANCED TECHNOLOGY INITIATIVES (CA)*			
COST ($ in Millions)	**Prior Years**	**FY 2017**	**FY 2018**	**FY 2019 Base**	**FY 2019 OCO**	**FY 2019 Total**	**FY 2020**	**FY 2021**	**FY 2022**	**FY 2023**	**Cost To Complete**	**Total Cost**
J52: *WARFIGHTER ADVANCED TECHNOLOGY INITIATIVES (CA)*	-	12.500	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	12.500

Note

Congressional increase for program increase

A. Mission Description and Budget Item Justification

Congressional Interest Item funding for Warfighter Advanced Technology development.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018
Congressional Add: Program Increase	12.500	-
FY 2017 Accomplishments: N/A		
Congressional Adds Subtotals	12.500	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2019 Army			Date: February 2018
Appropriation/Budget Activity 2040 / 3	R-1 Program Element (Number/Name) PE 0603001A / *Warfighter Advanced Technology*	Project (Number/Name) VT5 / *Expeditionary Mobile Base Camp Demonstration*	

COST ($ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
VT5: *Expeditionary Mobile Base Camp Demonstration*	-	4.082	3.433	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	7.515

Note

In FY19, work is realigned from Project VT5 (Expeditionary Mobile Base Camp Demonstration) to Project XW6 (Small Unit Expeditionary Maneuver).

A. Mission Description and Budget Item Justification

This Project matures and demonstrates mission-specific plug and play components, subsystems, and modules designed to optimize manpower requirements, improve situational awareness, increase Soldier readiness and survivability, improve habitation, reduce logistics footprint, enhance supportability, and reduce cost. Expeditionary Base Camp (EBC) systems (or remote command outposts) provide an operational capability for Small Combat Units (battalion and below) and Soldiers, which are rapidly deployable/re-locatable, require no Military Construction, and need limited materiel handing support. The need for this technologically enabled capability has arisen as a result of new tactics, techniques, and procedures used in austere, remote, and challenging environments in which stability operations, counterinsurgency operations, and peace keeping missions are conducted. The Army envisions continuing to conduct this full range of operations worldwide, particularly in the Asia Pacific and Middle East regions. This project integrates mature technologies to create mission specific lab demonstrators and assesses the performance capabilities using metrics and methodologies developed under Program Element (PE) 0602786A/Project VT4. Demonstrated EBC equipment is transitioned to Product Manager (PM) Force Sustainment Systems (PM FSS).

Efforts in this Project support the Army Science and Technology Soldier Portfolio.

Work in this Project complements and is fully coordinated with PE 0602786A (Warfighter Technology), PE 0602105A (Materials Technology), PE 0602784A (Military Engineering Technology), PE 0603734A (Military Engineering Advanced Technology), PE 0603004A (Weapons and Munitions Advanced Technology), PE 0603005A (Combat Vehicle and Automotive Advanced Technology), PE 0603125A (Combating Terrorism Technology Development), and PE 0603772A (Advanced Tactical Computer Science and Sensor Technology).

The cited work is consistent with the S&T priorities of the U.S. Army Chief of Staff, Assistant Secretary of Defense for Research and Engineering priority focus areas and the Army Modernization Strategy.

In FY19, this project merges into XW6, Small Unit Expeditionary Maneuver, along with 242 , Airdrop Equipment.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019
Title: Expeditionary Base Camp (EBC) Technology Demonstrations	4.082	3.433	-
Description: This effort matures and demonstrates technologies required to plan, establish, operate, protect, sustain, and redeploy a holistic small unit base camp system and manage its power, waste, and water resources. This effort supports Basing			

Exhibit R-2A, RDT&E Project Justification: PB 2019 Army		Date: February 2018
Appropriation/Budget Activity 2040 / 3	**R-1 Program Element (Number/Name)** PE 0603001A / *Warfighter Advanced Technology*	**Project (Number/Name)** VT5 / *Expeditionary Mobile Base Camp Demonstration*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019
Sustainment and Logistics capability demonstrations. This work further evolves breakthroughs from PE 0602786A/Project VT4, PE 0602786A/Project H99 and is coordinated with PE0603001A/Project C07, PE0602105A/Project H84, PE 0602784A/Project T40, PE 0603734A/Project T08, PE 0603004A/Project L97, PE 0603005A/Project 497, PE 0603125A/Project DF5, and PE 0603772A/Project 101. ***FY 2018 Plans:*** Optimize and assess base camp life support technologies that potentially impact Warfighter cognitive and physical performance; exploit composite material repairing methodologies for tactical shelters to reduce system replacement costs; exploit self-powered waste to energy technologies to include black waste treatment for small base camps for self-sustaining base camp concept; provide and mature the design of next generation shelter to improve shelter energy efficiency and durability; demonstrate flexible photovoltaic material technology as an alternative operational energy source for forward operating bases; mature self-cooling technologies for human remains transfer without increasing the weight of the current system. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** In FY19, this effort merges into Project XW6, accomplishment title Small Unit Expeditionary Maneuver, in order to meet senior leader priorities for Expeditionary Maneuver.			
Accomplishments/Planned Programs Subtotals	4.082	3.433	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2019 Army			Date: February 2018
Appropriation/Budget Activity 2040 / 3	R-1 Program Element (Number/Name) PE 0603001A / *Warfighter Advanced Technology*	Project (Number/Name) XW6 / *Small Unit Expeditionary Maneuver*	

COST ($ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
XW6: *Small Unit Expeditionary Maneuver*	-	0.000	0.000	2.761	-	2.761	5.557	5.062	5.862	5.830	0.000	25.072

Note

In FY19, work is realigned from Projects VT5 (Expeditionary Mobile Base Camp Demonstration) to Project XW6 (Small Unit Expeditionary Maneuver) to create an integrated expeditionary maneuver research focus.

A. Mission Description and Budget Item Justification

This Project funds the maturation, validation and demonstration of innovative technologies which provide maneuver capabilities such as precision aerial delivery of cargo and personnel and expeditionary maneuver platforms to enable and enhance mission command and human performance in response to emerging operational environments that require expeditionary logistics for aggregated and disaggregated Soldiers and units. Technologies that allow dismounted units to move to positions of advantage rapidly, and then to operate for hours, days, weeks without resupply while sustaining a high tempo for periods of up to seven days. Efforts funded in this Project support all Military Services, the Special Operations Command, and the Defense Logistics Agency. Demonstrated technologies transition to a variety of partners, including Product Manager Force Sustainment Systems (PdM-FSS), Product Manager Combat Support Equipment (PM CSE), and/or Naval Sea Systems Command (NAVSEA)/Naval Supply Systems Command (NAVSUP).

Efforts in this Project support the Army Science and Technology Soldier Portfolio.

The cited work is consistent with the S&T priorities of the U.S. Army Chief of Staff, Assistant Secretary of Defense for Research and Engineering priority focus areas and the Army Modernization Strategy.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019
Title: Small Unit Expeditionary Maneuver	-	-	2.761
Description: This effort optimizes technologies that enable Soldier and Small Unit survivability, mission readiness and effectiveness during highly mobile, dispersed operations that may occur in the absence of conventional logistics support. This effort matures and demonstrates technologies that enhance equipment, materiel, and personnel aerial delivery in an Anti-Access/ Area Denial (A2/AD) environment; stabilization techniques and nutrient compositions to maximize the Warfighter?s physical and cognitive performance; and technologies to enhance field detection and identification capabilities of chemical and biological threats in foods.			
FY 2019 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2019 Army		Date: February 2018
Appropriation/Budget Activity 2040 / 3	**R-1 Program Element (Number/Name)** PE 0603001A / *Warfighter Advanced Technology*	**Project (Number/Name)** XW6 / *Small Unit Expeditionary Maneuver*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019
Will demonstrate and support the transition of advanced personnel airdrop safety technologies and cargo airdrop from non-traditional platforms in support of interoperability with manned-unmanned teaming (MUM-T) assets. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** In FY19, Project VT5, accomplishment title Expeditionary Base Camp (EBC) Technology Demonstrations will be moved under Project XW6, accomplishment title Small Unit Expeditionary Maneuver in order to meeting senior leader priorities for Expeditionary Maneuver capabilities.			
Accomplishments/Planned Programs Subtotals	-	-	2.761

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A