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Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Army	Date: May 2017
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Appropriation/Budget Activity 2040: Research, Development, Test & Evaluation, Army / BA 6: RDT&E Management Support	R-1 Program Element (Number/Name) PE 0604258A / Target Systems Development
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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	-	16.163	19.122	13.902	-	13.902	12.508	12.755	13.588	13.142	-	-
238: Aerial Targets	-	11.757	13.719	9.963	-	9.963	8.291	9.001	10.093	10.540	-	-
459: Ground Targets	-	4.406	5.403	3.939	-	3.939	4.217	3.754	3.495	2.602	-	-

A. Mission Description and Budget Item Justification

This Program Element funds aerial and ground target hardware and software development, maintenance, and upgrades. The overall objective is to ensure validation of weapon system accuracy and reliability by developing aerial and ground targets essential for test and evaluation (T&E). These targets are economical and expendable, remotely controlled or stationary, and often destroyed in use. The Army is the Tri-Service lead under the Secretariat Reliance panel for providing rotary wing, mobile ground, towed, and designated targets for T&E. The Army executes development of some service-peculiar target requirements in support of quality assurance, lot acceptance, and training and continues development of service-peculiar and on-going target materiel upgrades to maintain continuity with current weapons technology and trends in modern and evolving Army weapons.

B. Program Change Summary (\$ in Millions)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Previous President's Budget	16.684	19.122	10.979	-	10.979
Current President's Budget	16.163	19.122	13.902	-	13.902
Total Adjustments	-0.521	0.000	2.923	-	2.923
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.521	-			
• Adjustments to Budget Years	0.000	0.000	2.923	-	2.923

Change Summary Explanation

Fiscal Year (FY) 18 adjustment for High-Speed Aerial Target replacement Engineering and Manufacturing Development (EMD) phase, Project 238.

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Exhibit R-2A, RDT&E Project Justification: FY 2018 Army										Date: May 2017		
Appropriation/Budget Activity 2040 / 6					R-1 Program Element (Number/Name) PE 0604258A / Target Systems Development				Project (Number/Name) 238 / Aerial Targets			
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
238: Aerial Targets	-	11.757	13.719	9.963	-	9.963	8.291	9.001	10.093	10.540	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		
A. Mission Description and Budget Item Justification												
The Aerial Targets Project supports Army readiness through development, acquisition, operation and modernization of aerial targets. Multi-spectral Aerial Targets include realistic surrogates, actual high performance threat aircraft, and virtual target computer models. Current and emerging weapons systems require test, evaluation, and training using threat representative aerial targets to assess weapons systems effectiveness in the operational environment. This program encompasses a portfolio of full-scale, miniature, and subscale fixed wing/rotary wing targets; virtual targets; ancillary devices; and associated control systems. For accurate threat portrayal that properly stresses weapons systems during test and evaluation aerial targets must exhibit the flight characteristics, threat signatures, and other performance factors to represent or emulate relevant and validated threats. This Project resources the long-range planning to determine future target needs and development of coordinated requirements; the management of target research, development, test and evaluation, production, and modernization; execution of the validation process to ensure that aerial targets accurately represent the threat; as well as storage and repair parts. The Army is the Test Enterprise Reliance lead for Rotary Wing Targets and Towed Target development and the Tri-Service lead for procurement and enhancement of the MQM-107 fixed wing High Speed Aerial Target.												
B. Accomplishments/Planned Programs (\$ in Millions)									FY 2016	FY 2017	FY 2018	
Title: Engineering and Manufacturing Development (EMD) phase contract activity for the Target Control Systems (TCS) and aerial target control components. Description: Continue EMD phase contract activities for the TCS and aerial target control components. FY 2016 Accomplishments: Continued EMD for the aerial and TCS ground target control components. Provided design modifications to solve obsolescence problems and updates software to correct anomalies. Provided software performance enhancement modifications to support Test and Evaluation (T&E) missions, improve test sets and develop upgraded operator displays. Updated documentation of the system and operations and maintenance manuals. Supported operational repair and maintenance with engineering analysis of target control system performance. FY 2017 Plans: Will continue Engineering and Manufacturing Development (EMD) for the aerial target test sets, relays, avionics components, and other aerial ancillary equipment. Will continue to provide for design modifications to solve obsolescence problems and update software to correct anomalies and provide for software performance enhancement modifications to support T&E missions and upgrade test sets and other aerial ancillary equipment. Will continue to update documentation of the system as well as operations									0.514	0.674	-	

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Appropriation/Budget Activity 2040 / 6		R-1 Program Element (Number/Name) PE 0604258A / <i>Target Systems Development</i>		Project (Number/Name) 238 / <i>Aerial Targets</i>	
B. Accomplishments/Planned Programs (\$ in Millions)			FY 2016	FY 2017	FY 2018
and maintenance manuals. Will continue to support operational repair and maintenance with engineering analysis of target control system performance..					
Title: Engineering and Manufacturing Development (EMD) phase contract activity for the Towed Targets/Ancillary devices. Description: Continue EMD phase contract activities for the Towed Targets/Ancillary devices. FY 2016 Accomplishments: Engineering, manufacturing and development for the Towed Targets/Ancillary devices. Continue the development, enhancement, maintenance, and storage for all Research, Development, Test, and Evaluation (RDTE) aerial targets, towed targets, and ancillary devices. Continuation of development and testing of Low Cost Towed target systems (Cruise Missile Tow Target and Reduced Radar Tow Target) emulating current threats at a very low cost to Patriot, Joint Land Attack Cruise Missile Defense Elevated Netted Sensor System (JLENS) and classified customers. Signature modification and performance enhancement efforts for these targets is ongoing. Investigates/tests other cost-saving towed systems (Glide-Tow, Towed Spheres, Height-Keeping-Tow, and Tow Test Bed) for Air Defense Weapons System customers. FY 2017 Plans: Will continue EMD for the Towed Targets/Ancillary devices. Will continue development, enhancement, maintenance, and storage for all RDT&E aerial targets, towed targets, and ancillary devices. Continuation of development and testing of Low Cost Towed target systems (Cruise Missile Tow Target and Reduced Radar Tow Target) emulating current threats at a very low cost to Patriot, JLENS and classified customers. Signature modification and performance enhancement efforts for these targets is ongoing. Investigates/tests other cost-saving towed systems (Glide-Tow, Towed Spheres, Height-Keeping-Tow, and Tow Test Bed) for Air Defense Weapons System customers. FY 2018 Plans: Continues engineering and manufacturing for the Towed Targets/Ancillary devices, to include development, enhancement, maintenance, and storage for all RDTE aerial targets, towed targets, and ancillary devices as needed. Continued development and testing of Low Cost Towed target systems (Sphere Tow, Reduced Radar Tow Target, and the Glide Tow Target) emulating current threats at a very low cost to Patriot, Indirect Fires Protection Capability (IFPC), United States Army Center for Countermeasures/Office of the Secretary of Defense, and classified customers. Signature modification and performance enhancement efforts for these targets is ongoing. Investigates and tests other cost-saving towed systems (Glide-Tow, Cruise Missile Tow Target, Towed Spheres, and Tow Test Bed) for Air Defense Weapons System customers.			0.610	0.746	0.557
Title: Engineering and Manufacturing Development (EMD) phase contract activity for Aerial Virtual Targets. Description: Continue EMD phase contract activities for Aerial Virtual Targets. FY 2016 Accomplishments:			0.727	1.211	0.791

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Appropriation/Budget Activity 2040 / 6	R-1 Program Element (Number/Name) PE 0604258A / Target Systems Development	Project (Number/Name) 238 / Aerial Targets		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2016	FY 2017	FY 2018
Continued EMD for Aerial Virtual Targets for evolving Army and Department of Defense (DoD) simulation standards and evolving implementation techniques; focuses on simulation target models of airplanes, helicopters, missiles, unmanned aerial vehicles, and aerial targets in commonly used formats to support visualization, infrared analysis, and radar analysis simulations; will support verification and validation of models, to provide archiving and distribution of simulation target models to simulation developers throughout the Army and DoD T&E communities. Simulation target models are employed to facilitate simulations for developmental testing (DT) and operational testing (OT) test planning, test rehearsal, post-test analysis, hardware-in-the-loop testing, and execution of test events that are too costly or difficult to be conducted under actual field conditions. These models are used by multiple DoD agencies and multiple weapon systems such as Close Combat Weapon System (CCWS), Unmanned Aerial System, Lower Tier Program offices, and Longbow Hellfire.				
FY 2017 Plans: Will continue EMD for Aerial Virtual Targets for evolving Army and DoD simulation standards and evolving implementation techniques; focuses on simulation target models of airplanes, helicopters, missiles, unmanned aerial vehicles, and aerial targets in commonly used formats to support visualization, infrared analysis, and radar analysis simulations; will support verification and validation of models, will provide archiving and distribution of simulation target models to simulation developers throughout the Army and DoD T&E communities. Simulation target models are employed to facilitate simulations for developmental testing (DT) and operational testing (OT) test planning, test rehearsal, post-test analysis, hardware-in-the-loop testing, and execution of test events that are too costly or difficult to be conducted under actual field conditions. These models will be used by multiple DoD agencies and multiple weapon systems such as Close Combat Weapon System (CCWS), Unmanned Aerial System, Lower Tier Program offices, and Longbow Hellfire.				
FY 2018 Plans: Will continue engineering and manufacturing for Aerial Virtual Targets for evolving Army and DoD simulation standards and evolving implementation techniques; focuses on simulation target models of airplanes, helicopters, missiles, unmanned aerial vehicles, and aerial targets in commonly used formats to support visualization, infrared analysis, and radar analysis simulations; will support verification and validation of models, will provide archiving and distribution of simulation target models to simulation developers throughout the Army and DoD T&E communities. Simulation target models are employed to facilitate simulations for DT and OT test planning, test rehearsal, post-test analysis, hardware-in-the-loop testing, and execution of test events that are too costly or difficult to be conducted under actual field conditions. These models will be used by multiple DoD agencies and multiple weapon systems such as CCWS, Unmanned Aerial System, Lower Tier Program offices, and Longbow Hellfire.				
Title: Engineering and Manufacturing Development (EMD) phase contract activity for the Army Ground Aerial Target Control System (AGATCS).		7.246	8.088	2.893
Description: EMD phase contract activities for the AGATCS which supports a modern current technology target control system for control of both aerial and ground targets.				

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Appropriation/Budget Activity 2040 / 6		R-1 Program Element (Number/Name) PE 0604258A / <i>Target Systems Development</i>		Project (Number/Name) 238 / <i>Aerial Targets</i>	
B. Accomplishments/Planned Programs (\$ in Millions)			FY 2016	FY 2017	FY 2018
<i>FY 2016 Accomplishments:</i> Engineering and development for Army Ground Aerial Target Control System (AGATCS) which provides remote control of aerial (both fixed and rotary wing), ground (heavy, medium, and light vehicles), and seaborne targets with a single control system in support of live fire testing necessary for lethality evaluation and sensor package testing for evaluation of suitability and effectiveness. Complies with Department of Defense Instruction (DODI) 8510.01 mandate / DOD Information Assurance Certification and Accreditation Process (DIACAP)/Risk Management Framework (RMF) on all target control systems to ensure a secure operating posture. Meets surface target testing requirements to include formation, collision avoidance, and swarming capabilities for United States (U.S.) Army test ranges. Develops and maintains a small fleet of seaborne and Unmanned Helicopter Vehicle-Target (UHV-T) assets for use by the T&E community. Provides Test Centers and the T&E community with a versatile seaborne and rotary wing resource for use in conducting tests to include live fire testing, observation, signal repeater and cargo transportation. Acquires Surface Target Instrumentation (STI) to support all test ranges critical to the Army Test and Evaluation Command's (ATEC's) requirement for threat representative surface targets. <i>FY 2017 Plans:</i> Will Continue EMD for AGATCS which provides remote control of aerial (both fixed and Rotary Wing), ground (heavy, medium, and light vehicles), and seaborne targets with a single control system in support of live fire testing necessary for lethality evaluation and sensor package testing for evaluation of suitability and effectiveness. Complies with DODI 8510.01 mandate / DOD Information Assurance Certification and Accreditation Process (DIACAP/RMF) on all target control systems to ensure a secure operating posture. Meets surface target testing requirements to include formation, collision avoidance, and swarming capabilities for U.S. Army test ranges. Develops and maintains a small fleet of seaborne and UHV-T assets for use by the T&E community. Provides Test Centers and the T&E community with a versatile seaborne and rotary wing resource for use in conducting tests to include live fire testing, observation, signal repeater and cargo transportation. Acquires and sustains STI to support all test ranges critical to ATEC's requirement for threat representative surface targets. <i>FY 2018 Plans:</i> Will continue AGATCS engineering, manufacturing and development to provide remote control of aerial (both fixed and rotary wing), ground (heavy, medium, and light vehicles), and seaborne targets with a single control system in support of live fire testing necessary for lethality evaluation and sensor package testing for evaluation of suitability and effectiveness. Complies with DODI 8510.01 mandate / DOD Risk Management Framework on all target control systems to ensure a secure operating posture. Meets surface target testing requirements to include formation, collision avoidance, and swarming capabilities for U.S. Army test ranges. Develops and maintains a small fleet of seaborne and UHV-T assets for use by the Test & Evaluation community. Provides Test Centers and the T&E community with a versatile seaborne and rotary wing resource for use in conducting tests to include					

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B. Accomplishments/Planned Programs (\$ in Millions)		FY 2016	FY 2017
live fire testing, observation, signal repeater and cargo transportation. Acquires STI to support all test ranges critical to ATEC's requirement for threat representative surface targets.			
Title: Life Cycle Management activities for the Unmanned Aerial System - Target (UAS-T). Description: Continue technical updates and life cycle management activities for the UAS-T to provide threat representative support for test and experimentation missions. FY 2016 Accomplishments: Provided an operational UAS-T to operate and maintain as a generic, tactical class unmanned aircraft system target. The UAS-T supported a wide variety of test requirements by providing generic threat representative support for test and experimentation missions. Funds enabled the identification and correction of system anomalies identified during operations and the flight demonstration of system corrections. Funds provided for limited engineering capability to address minor enhancements to the basic target system to meet shortcomings identified during operations. Funds also provided for updating of the system drawing package and systems documents to incorporate modifications made to the system. Supported all Army systems needing to test Intelligence, Surveillance and Reconnaissance (ISR), kinetic, Electronic Warfare, infrared or ISR capabilities against an unmanned aerial target with a threat representative flight envelope. Maintained operator and maintainer proficiency with the aerial target system. FY 2017 Plans: Will continue EMD for the UAS-T to operate and maintain a generic, tactical class unmanned aircraft system target to support a variety of test requirements by providing a generic threat representative aerial target to support test and experimentation missions. Projects to be supported include the Space and Missile Defense Command High Energy Laser project, the JIAMDOD sponsored Black Dart 2015, Littoral Combat Ship operational and live fire testing, and a variety of research and development efforts. Funds will continue to enable the identification and correction of anomalies identified during flight operations and the flight demonstration of the corrective actions. Funds will continue to provide for limited engineering capability to address minor enhancements to the basic target system to meet shortcomings identified during operations. FY 2018 Plans: Will continue technical and life cycle management for the UAS-T to operate and maintain a generic, tactical class unmanned aircraft system target to support a variety of test requirements by providing a generic threat representative aerial target to support test and experimentation missions. Projects to be supported include the Space and Missile Defense Command High Energy Laser project, the Joint Integrated Air and Missile Defense Organization (JIAMDOD) sponsored Black Dart 2018, Littoral Combat Ship operational and live fire testing. This program will continue to require technical support for investigation, demonstration, and integration of a more economical target, to include technical oversight of the targets' acquisition and ground support equipment.		0.575	0.597
Title: Life Cycle Management activities for the High Speed Aerial Target (HSAT).		1.155	0.854

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B. Accomplishments/Planned Programs (\$ in Millions)			FY 2016	FY 2017	FY 2018
Description: Technical and life cycle management activities for the High Speed Aerial Target (MQM-107) equipment, to include engineering change proposals, technology obsolescence, safety and system data documentation. FY 2016 Accomplishments: Kept the aging HSAT, MQM-107 operational, ensuring a realistic aerial target capable of simulating the performance of enemy aircraft to aid in the research, development, test and evaluation of weapons systems and to aid in training operational units employing production missile systems. Funds were used to overcome obsolescence for spare and repair parts, and to maintain equipment and documentation for safe operations, including EMD. Supports all Army systems needing to test ISR, kinetic, electronic warfare, infra-red or ISR capabilities against an aerial target with high speed, high altitude flight envelope. FY 2017 Plans: Will continue EMD for the aging HSAT, MQM-107 that will provide a realistic aerial target capable of simulating the performance of enemy aircraft to aid in the research, development, test, and evaluation of weapons systems and to aid in training operational units employing production missile systems. Funds will continue to be required to overcome obsolescence for spare and repair parts, and to maintain equipment and documentation for safe operations supporting T&E programs such as Patriot, Stinger, IAMD, Sentinel Radar, CMDS and classified programs for Army and Tri-Service customers. FY 2018 Plans: Will continue life cycle management for the aging HSAT, MQM-107 which provides a realistic aerial target capable of simulating the performance of enemy aircraft to aid in the research, development, test, and evaluation of weapons systems and to aid in training operational units employing production missile systems. Funds will continue to be required to overcome technology obsolescence for spare and repair parts, and to maintain equipment and documentation for safe operations supporting T&E programs such as Patriot, Stinger, Integrated Air and Missile Defense (IAMD), Sentinel Radar, Cruise Missile Defense System (CMDS) and classified programs for Army and Tri-Service customers.					
Title: Engineering and Manufacturing Development (EMD) phase contract activity for the High Speed Aerial Target Replacement. Description: EMD for the replacement of aging HSAT, MQM-107 to provide a realistic aerial target capable of simulating the performance of enemy aircraft. This will aid in the research, development, test, and evaluation of weapons systems and aid in training operational units employing production missile systems. Funds required for the replacement HSAT system to be cost effective and able to meet capabilities currently supported by the MQM-107. Program requires technical support for investigation, demonstration, and Integration of a more economical target. Technical oversight of the replacement targets' acquisition along with Ground Support Equipment (GSE) and other activities related to getting it operational is essential. Supports T&E programs such as Patriot, Stinger, IAMD, Sentinel Radar, CMDS and classified programs for Army and Tri-Service customers. FY 2016 Accomplishments:			0.930	0.990	4.507

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B. Accomplishments/Planned Programs (\$ in Millions)		FY 2016	FY 2017
Began the EMD for the replacement of aging High Speed Aerial Target (HSAT, MQM-107) that will provide a realistic aerial target capable of simulating the performance of enemy aircraft to aid in the research, development, test, and evaluation of weapons systems and to aid in training operational units employing production missile systems. Funds required to replace HSAT system to ensure cost effectiveness and meet capabilities currently supported by the MQM-107. Program requires technical support for investigation, demonstration, and integration of a more economical target. Technical oversight of the replacement targets' acquisition along with ground support equipment and other activities related to getting it operational is essential. Target to support T&E programs such as Patriot, Stinger, IAMD, Sentinel Radar, CMDS and classified programs for Army and Tri-Service customers. FY 2017 Plans: Will continue the EMD for the replacement of aging High Speed Aerial Target (HSAT, MQM-107) that will provide a realistic aerial target capable of simulating the performance of enemy aircraft to aid in the research, development, test, and evaluation of weapons systems and to aid in training operational units employing production missile systems. Funds are required for the replacement HSAT system that will need to be cost effective and able to meet capabilities currently supported by the MQM-107. This program will continue to require technical support for investigation, demonstration, and integration of a more economical target. Technical oversight of the replacement targets' acquisition along with ground support equipment and other activities related to getting it operational is essential. This target will continue to support T&E programs such as Patriot, Stinger, IAMD, Sentinel Radar, CMDS and classified programs for Army and Tri-Service customers. FY 2018 Plans: Funds Engineering and Manufacturing Development (EMD) for mission-essential High Speed Aerial Target (HSAT, MQM-107) which will provide a realistic aerial target capable of simulating the performance of enemy aircraft to aid in the research, development, test, and evaluation of weapons systems and to aid in training operational units employing production missile systems. Funds are required for the replacement HSAT system that will be cost effective and meet capabilities currently supported by the MQM-107. This program will continue to require technical support for investigation, demonstration, and integration of a more economical target. Technical oversight of the replacement targets' acquisition along with ground support equipment and other activities related to getting it operational is essential. This target will continue to support T&E programs such as Patriot, Stinger, IAMD, Sentinel Radar, CMDS and classified programs for Army and Tri-Service customers.			
Accomplishments/Planned Programs Subtotals		11.757	13.719
C. Other Program Funding Summary (\$ in Millions) N/A			
Remarks			

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D. Acquisition Strategy N/A		
E. Performance Metrics N/A		

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Appropriation/Budget Activity 2040 / 6					R-1 Program Element (Number/Name) PE 0604258A / Target Systems Development				Project (Number/Name) 459 / Ground Targets			
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
459: Ground Targets	-	4.406	5.403	3.939	-	3.939	4.217	3.754	3.495	2.602	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		
A. Mission Description and Budget Item Justification												
This Project funds Army efforts to support test and evaluation (T&E) of advanced weapon systems and supports Army Transformation by developing surrogates, acquiring foreign equipment and developing virtual target computer models of ground vehicle targets. These products are required to adequately stress weapon systems undergoing T&E. This tasking includes long-range planning to determine future target needs and development of coordinated requirement documents; the centralized management of the ground target research, development, test and evaluation processes; execution of the validation process; acquisition of foreign equipment; and continuing maintenance, storage, and development/enhancement/update via engineering services of developed and acquired targets to ensure availability for T&E customers. This program also manages use of current assets and operates centralized spare parts program. The United States (U.S.) Army is the Tri-Service lead for providing mobile ground targets for T&E.												
B. Accomplishments/Planned Programs (\$ in Millions)									FY 2016	FY 2017	FY 2018	
Title: Mobile Ground Target Operations (MGTO)									1.815	2.432	2.216	
Description: MGTO provides oversight of five Primary Operating Centers to include operation, storage, maintenance, repair, safety and configuration management.												
FY 2016 Accomplishments: MGTO provided oversight to five Primary Operating Centers to include operations, storage, maintenance, repair, safety and configuration management for Foreign Mobile Ground Target Vehicles, and acquisition of new material and spare parts. Efforts will support users such as U.S. Army Test and Evaluation Command (ATEC), Apache 64E, Joint Air to Ground Missile (JAGM) , Javelin, Program Management (PM) CREW, Brigade Modernization Command, Joint Light Tactical Vehicle (JLTV) , PM Force Protection System, Unmanned Aircraft System (UAS), Light Armored Vehicle Add PM Future Fighting Vehicle (FFV), and others.												
FY 2017 Plans: Maintains a fleet of reusable ground targets emulating relevant, current, and emerging threats which provides cost effective solutions for T&E. The objective of the Mobile Ground Target Operations (MGTO) effort is to support the testing community as fully, efficiently and effectively as possible. The MGTO centrally manages a fleet of foreign threat ground vehicles while maintaining the foreign integrity of the assets. The MGTO provides support and oversight for actual threat foreign ground vehicles and mobile ground target surrogate vehicles for use as threat targets by the T&E community for destructive and non-destructive scenarios. Efforts will support users such as ATEC, Apache 64E, GMLRS, Brigade Modernization Command, KIOWA, JAGM, Gray Eagle, Add PM Future Fighting Vehicle (FFV), and others.												
FY 2018 Plans:												

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B. Accomplishments/Planned Programs (\$ in Millions)			FY 2016	FY 2017	FY 2018
Will maintain a fleet of reusable ground targets emulating relevant, current, and emerging threats which provides cost effective solutions for T&E. The objective of the MGTO effort is to support the testing community as fully, efficiently and effectively as possible. The MGTO centrally manages a fleet of foreign threat ground vehicles while maintaining the foreign integrity of the assets. The MGTO will provide support and oversight for actual threat foreign ground vehicles and mobile ground target surrogate vehicles for use as threat targets by the T&E community for destructive and non-destructive scenarios. Efforts will support users such as ATEC, Apache 64E, Guided Multiple Launch Rocket System (GMLRS), Brigade Modernization Command, JAGM, Gray Eagle, and FFV.					
Title: Ground Virtual Targets			0.636	0.966	0.831
Description: Government System Test and Evaluation to support the research and development of Ground Virtual Targets.					
FY 2016 Accomplishments: Continued Government System Test and Evaluation to fund the research and development of Ground Virtual Targets for evolving Army and Department of Defense (DoD) simulation standards and implementation techniques. Focused on simulation target models of wheeled and tracked ground vehicles in commonly used model formats; to develop simulation target models visualization simulations, infrared analysis simulations, and radio frequency analysis simulations; to support verification and validation of models, and provides archiving and distribution of simulation target models to simulation developers throughout the Army and DoD T&E communities. Simulation target models employed to facilitate simulations for both Development Testing (DT) and Operational Testing (OT); Virtual Targets support test planning, test rehearsal, post-test analysis, hardware-in-the-loop testing, and execution of test events that are too costly or difficult to be conducted under actual field conditions. These models were used by multiple DoD agencies and multiple weapon systems such as the JAGM and Longbow Hellfire offices.					
FY 2017 Plans: Continuing Government System Test and Evaluation to fund the research and development of Ground Virtual Targets for evolving Army and DoD simulation standards and implementation techniques. Will continue to focus on simulation target models of wheeled and tracked ground vehicles in commonly used model formats; will continue to develop simulation target models visualization simulations, IR analysis simulations, and RF analysis simulations; will continue to support verification and validation of models, and provides archiving and distribution of simulation target models to simulation developers throughout the Army and DoD T&E communities. Simulation target models will continue to be employed to facilitate simulations for both DT and OT; Virtual Targets support test planning, test rehearsal, post-test analysis, hardware-in-the-loop testing, and execution of test events that are too costly or difficult to be conducted under actual field conditions. These models will continue to be used by multiple DoD agencies and multiple weapon systems such as the JAGM and Longbow Hellfire offices.					
FY 2018 Plans:					

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B. Accomplishments/Planned Programs (\$ in Millions)			FY 2016	FY 2017	FY 2018
Will continue Government System Test and Evaluation for evolving Army and DoD simulation standards and implementation techniques for Ground Virtual Targets. The focus is on simulation target models of wheeled and tracked ground vehicles in commonly used model formats; will continue to develop simulation target models visualization simulations, infrared analysis simulations, and radio frequency analysis simulations. Will support verification and validation of models, and provides archiving and distribution of simulation target models to simulation developers throughout the Army and DoD T&E communities. Simulation target models will continue to be employed to facilitate simulations for both DT and OT; Virtual Targets support test planning, test rehearsal, post-test analysis, hardware-in-the-loop testing, and execution of test events that are too costly or difficult to be conducted under actual field conditions. These models will continue to be used by multiple DoD agencies and multiple weapon systems such as the JAGM and Longbow Hellfire offices.					
Title: Mobile Ground Targets Hardware (MGTH) Description: MGTH provides a mix of actual threat assets and surrogate targets to support Army T&E events. FY 2016 Accomplishments: The MGTH program provided an optimized mix of varying fidelity ground targets to cost-effectively meet the functionality and signature fidelity requirements of the objective force. Program to initiate analysis and design efforts to address specific capability shortfalls that include the T-90 and Armata Main Battle Tank signatures and the ability to develop surrogates. Additionally, the development of air defense artillery (ADA) surrogates are critical to meet the current emerging threat. The acquisition and/or development of insurgent vehicles is also essential capabilities that are required to defeat emerging threat forces from particular regions. FY 2017 Plans: Continuing to provide an optimized mix of varying fidelity ground targets to cost-effectively meet the functionality and signature fidelity requirements of the objective force. Will continue to initiate analysis and design efforts to address specific capability shortfalls that include the T-90 and Armata Main Battle Tank signatures and the ability to develop surrogates. Additionally, the development of air defense artillery (ADA) surrogates are critical to meet the current emerging threat. The acquisition and/or development of insurgent vehicles is also essential capabilities that are required to defeat emerging threat forces from particular regions. FY 2018 Plans: Will continue to provide an optimized mix of varying fidelity ground targets to cost-effectively meet the functionality and signature fidelity requirements of the objective force. Will continue to initiate analysis and design efforts to address specific capability shortfalls and the ability to develop surrogates. The development of ADA surrogates are critical to meet the current emerging			1.955	2.005	0.892

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: FY 2018 Army		Date: May 2017	
Appropriation/Budget Activity 2040 / 6	R-1 Program Element (Number/Name) PE 0604258A / <i>Target Systems Development</i>	Project (Number/Name) 459 / <i>Ground Targets</i>	
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2016	FY 2017
threat. The acquisition and development of insurgent vehicles is also an essential capability required to defeat emerging threat forces from particular regions.			
Accomplishments/Planned Programs Subtotals		4.406	5.403
C. Other Program Funding Summary (\$ in Millions) N/A			
Remarks			
D. Acquisition Strategy N/A			
E. Performance Metrics N/A			