Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Army

Appropriation/Budget Activity R-1 Program Element (Number/Name)

2040: Research, Development, Test & Evaluation, Army I BA 4: Advanced PE 0604113A I Future Tactical Unmanned Aircraft System (FTUAS)

Component Development & Prototypes (ACD&P)

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	-	0.000	0.000	12.393	-	12.393	5.645	3.751	3.881	0.160	0.000	25.830
EX8: Future Tactical Unmanned Aircraft System (FTUAS)	-	0.000	0.000	12.393	-	12.393	5.645	3.751	3.881	0.160	0.000	25.830

Note

Future Tactical Unmanned Aircraft System (FTUAS) is a new start program.

A. Mission Description and Budget Item Justification

The Future Unmanned Aircraft System (FUAS) is a critical system in the multi-domain battle concept that will employ cross-domain capabilities at all echelons and allow ground based forces to project power from land into other domains to defeat highly capable enemies, secure terrain, and consolidate gains. FUAS encompasses an array of capabilities from platoon soldiers to Division Commanders.

Future Tactical Unmanned Aircraft System (FTUAS) is a new start program. To fully enable these desired cross-domain capabilities, FTUAS will leverage universal and scalable control interfaces and plug-and-play, advanced payloads to optimize manned-unmanned teaming for air and ground maneuver units across all environments. These systems will employ multi-domain capabilities increasing the Army's ability to generate overmatch, provide the ground commander with multiple options, and enable joint force freedom of maneuver. Key attributes of the FTUAS include: (1) Reach: Expeditionary maneuver and mobility through increased speed, range, endurance, and payload capacity; (2) Protection: The capability and capacity to operate across a wider depth and breadth of domains, including high threat and denied environments, with assured communications, navigation, and reduced visual, electronic, and audio signatures able to overcome enemy countermeasures in high threat, anti-access and area denial (A2AD) environments; and (3) Lethality: A broad range of sensors and cross-domain fires that increase the speed of detecting, acquiring, identifying, and prioritizing targets to suppress, neutralize, and destroy enemy forces.

FTUAS will consist of an aircraft subsystem that will include the airframe, propulsion, avionics, communications, navigation, and software systems; aircraft-specific ground support equipment including take-off and landing systems, power generation, transportation, or unique command and control equipment; aircraft software; and required engineering, logistics, and programmatic support.

The Material Development Decision (MDD) for FTUAS is planned for FY21 followed by a 12 month Analysis of Alternatives (AoA). At the end of the AoA phase TRAC Leavenworth will present findings and conclusions based on the collected and analyzed data. FTUAS will be prepared to proceed to the appropriate acquisition milestone based on Army's decision.

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Date: February 2018

Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Army

Appropriation/Budget Activity R-1 Program Element (Number/Name)

2040: Research, Development, Test & Evaluation, Army I BA 4: Advanced Component Development & Prototypes (ACD&P)

PE 0604113A I Future Tactical Unmanned Aircraft System (FTUAS)

Date: February 2018

D. Durana Olivara Olivara (Alia Milliana)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
B. Program Change Summary (\$ in Millions)	1 1 2017	1 1 2010	1 1 2013 Dase	1 1 2019 000	1 1 2013 IOtal
Previous President's Budget	0.000	0.000	0.000	-	0.000
Current President's Budget	0.000	0.000	12.393	-	12.393
Total Adjustments	0.000	0.000	12.393	-	12.393
Congressional General Reductions	-	-			
 Congressional Directed Reductions 	-	-			
 Congressional Rescissions 	-	-			
Congressional Adds	-	-			
 Congressional Directed Transfers 	-	-			
Reprogrammings	-	-			
SBIR/STTR Transfer	-	_			
 Adjustments to Budget Years 	-	-	12.393	-	12.393

Change Summary Explanation

Addition of \$12.393 will provide required support for FTUAS pre-milestone decision requirements such as: MDTF Experimentation, market research, Validated On-line Threat (VOLT) Assessment, Analysis of Alternatives (AoA), independent cost estimates and other required milestone documents.

Exhibit R-2A, RDT&E Project Ju		Date: February 2018										
Appropriation/Budget Activity 2040 / 4	PE 060411	am Elemen I3A / Future stem (FTUA	Tactical Un	Project (Number/Name) EX8 I Future Tactical Unmanned Aircraft System (FTUAS)								
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
EX8: Future Tactical Unmanned Aircraft System (FTUAS)	-	0.000	0.000	12.393	-	12.393	5.645	3.751	3.881	0.160	0.000	25.830
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Army

Future Tactical Unmanned Aircraft System (FTUAS) is a new start program.

A. Mission Description and Budget Item Justification

The Future Unmanned Aircraft System (FUAS) is a critical system in the multi-domain battle concept that will employ cross- domain capabilities at all echelons and allow ground based forces to project power from land into other domains to defeat highly capable enemies, secure terrain, and consolidate gains. FUAS encompasses an array of capabilities from platoon soldiers to Division Commanders.

Future Tactical Unmanned Aircraft System (FTUAS) is a new start program. To fully enable these desired cross-domain capabilities, FTUAS will leverage universal and scalable control interfaces and plug-and-play, advanced payloads to optimize manned-unmanned teaming for air and ground maneuver units across all environments. These systems will employ multi-domain capabilities increasing the Army's ability to generate overmatch, provide the ground commander with multiple options, and enable joint force freedom of maneuver. Key attributes of the FTUAS include: (1) Reach: Expeditionary maneuver and mobility through increased speed, range, endurance, and payload capacity; (2) Protection: The capability and capacity to operate across a wider depth and breadth of domains, including high threat and denied environments, with assured communications, navigation, and reduced visual, electronic, and audio signatures able to overcome enemy countermeasures in high threat, anti-access and area denial (A2AD) environments; and (3) Lethality: A broad range of sensors and cross-domain fires that increase the speed of detecting, acquiring, identifying, and prioritizing targets to suppress, neutralize, and destroy enemy forces.

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The Material Development Decision (MDD) for FTUAS is planned for FY21 followed by a 12 month Analysis of Alternatives (AoA). At the end of the AoA phase TRAC Leavenworth will present findings and conclusions based on the collected and analyzed data. FTUAS will be prepared to proceed to the appropriate acquisition milestone based on Army's decision.

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2017	FY 2018	FY 2019
Title: System Engineering/Program Management	-	-	1.593
Description: System Engineering and Program Management			

PE 0604113A: Future Tactical Unmanned Aircraft System...

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Exhibit R-2A, RDT&E Project Justification: PB 2019 Army			Date: F	ebruary 2018	3			
Appropriation/Budget Activity 2040 / 4	R-1 Program Element (Number/Name) PE 0604113A I Future Tactical Unmanned Aircraft System (FTUAS)							
B. Accomplishments/Planned Programs (\$ in Millions)		FY	2017	FY 2018	FY 2019			
FY 2019 Plans: Funding for System Engineering/Program Management (SEPM) to as: MDTF Experimentation, market research, Validated On-line Thrindependent cost estimates and other required milestone document	reat (VOLT) Assessment, Analysis of Alternatives (AoA),	ch						
FY 2018 to FY 2019 Increase/Decrease Statement: Future Tactical Unmanned Aircraft System (FTUAS) is a new start	program.							
Title: Multi Domain Task Force (MDTF) Experimentation			-	-	10.80			
Description: FTUAS will consist of an aircraft subsystem that will i navigation, and software systems; aircraft-specific ground support generation, transportation, or unique command and control equipm programmatic support	equipment including take-off and landing systems, power							
FY 2019 Plans: Funding for USARPAC Multi-Domain Task Force (MDTF) Experime Electronic Warfare (MFEW) experimentation which will inform FTU.	• • • • • • • • • • • • • • • • • • • •	n						
FY 2018 to FY 2019 Increase/Decrease Statement: Future Tactical Unmanned Aircraft System (FTUAS) is a new start	program.							

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

N/A

Remarks

D. Acquisition Strategy

TRADOC System Manager - Recon Attack (TCM-RA) has prepared an Initial Capabilities Document (ICD) that will go to AROC at the next available opportunity. PM TUAS will immediately follow that with an MDD and an AoA phase.

E. Performance Metrics

On time delivery of required documents in support of MDD and subsequent milestones including Affordability Analysis, AoA Study Guidance and AoA Study Plan, market research, Validated On-line Threat (VOLT) Assessment, AoA, independent cost estimates and other required milestone documents.

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12.393

Accomplishments/Planned Programs Subtotals

Exhibit R-3, RDT&E	Project C	ost Analysis: PB 2	2019 Arm	у								Date:	February	/ 2018	
Appropriation/Budg 2040 / 4	et Activity	1		PE 060	ogram Ele 4113A / F System (uture Tac		Project (Number/Name) EX8 I Future Tactical Unmanned Aircraft System (FTUAS)							
Management Servic	es (\$ in M	illions)		FY:	2017	FY:	2018	FY 2 Ba			2019 CO	FY 2019 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To	Total Cost	Target Value of Contract
Program Management	TBD	PM TUAS : Redstone Arsenal	-	-		-		1.593		-		1.593	Continuing	Continuing	-
		Subtotal	-	-		-		1.593		-		1.593	Continuing	Continuing	N/A
Support (\$ in Million	ns)			FY	2017	FY	2018	FY 2 Ba			2019 CO	FY 2019 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To	Total Cost	Target Value of Contract
Multi Domain Task Force (MDTF) UAS Experimentation	Various	Various : Various	-	-		-		10.800		-		10.800	0.000	10.800	-
		Subtotal	-	-		-		10.800		-		10.800	0.000	10.800	N/A
			Prior Years	FY	2017	FY:	2018	FY 2 Ba			2019 CO	FY 2019 Total	Cost To	Total Cost	Target Value of Contract

Remarks

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

Date: February 2018

Appropriation/Budget Activity

2040 / 4

R-1 Program Element (Number/Name)
PE 0604113A I Future Tactical Unmanned
Aircraft System (FTUAS)

Project (Number/Name)
EX8 I Future Tactical Unmanned Aircraft

System (FTUAS)

Event Name	F	FY 2017			FY 2018			FY 2019				F	2020)		FΥ	2021	1	FY 2022				FY 2023			
	1	2 3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3
Multi Domain Task Force Experimentation (MDTF)																								1		
								MDTF																1		
System Engineering/Program Management (SEPM)								SEPM																		
Materiel Development Decision								SEFM								Ā								1		
															ľ	MDD								1		
Analysis of Alternatives																								1		
Milestone A/B/C																	AoA					A		1		
Wilestone Arbico																						MS A/	B/C	1		
																								1		
																								1		
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																								1		

Exhibit R-4A, RDT&E Schedule Details: PB 2019 Army	Date: February 2018		
1	,	- , \	umber/Name) re Tactical Unmanned Aircraft
	Aircraft System (FTUAS)	System (F	TUAS)

Schedule Details

	St	art	E	nd
Events	Quarter	Year	Quarter	Year
Multi Domain Task Force Experimentation (MDTF)	1	2019	4	2020
System Engineering/Program Management (SEPM)	1	2019	4	2023
Materiel Development Decision	1	2021	1	2021
Analysis of Alternatives	2	2021	2	2022
Milestone A/B/C	3	2022	3	2022