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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Army **Date:** March 2024

Appropriation/Budget Activity 2040: <i>Research, Development, Test & Evaluation, Army / BA 5: System Development & Demonstration (SDD)</i>	R-1 Program Element (Number/Name) PE 0604633A / <i>Air Traffic Control</i>
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	-	2.527	1.134	0.982	-	0.982	0.539	0.544	0.551	0.557	0.000	6.834
586: <i>Air Traffic Control</i>	-	2.527	1.134	0.982	-	0.982	0.539	0.544	0.551	0.557	0.000	6.834

A. Mission Description and Budget Item Justification

Program Element (PE) 0604633A Air Traffic Control funds continuous efforts in the development of modernized tactical Air Traffic Control (ATC) systems that enable safety of aircraft operations. ATC systems are required to achieve or maintain compliance with civil, military, domestic and international ATC mandates and combat identification requirements.

The Tactical Airspace Integration System (TAIS) is the Army's program of record for Airspace Control (AC) and enroute Air Traffic Services (ATS). TAIS provides Airspace Management, planning, and dynamic execution capabilities at all echelons above Brigade, and enroute flight following air traffic services. TAIS is the only Army system with direct interface to the U.S. Air Force Air Operations Center (AOC) Weapon System for submission of the Army's requests for airspace from the Battlefield Coordination Detachment (BCD). Airspace Coordinating Measure Requests (ACMREQs) received from other mission command systems are passed to TAIS for approval or higher coordination. TAIS software supports U.S. Army commanders, airspace users, airspace managers, Army air traffic controllers, Joint organizations, and Unified Action Partners (UAP) by providing digitized, multi-echelon planning and execution of airspace management and Air Traffic Services. TAIS provides AC planning and enhanced AC execution; improved theater, intra-, and inter-Corps/Division Air Traffic Services (ATS) support; effective battlespace synchronization; and direct links to the Theater Air Ground System (TAGS) through interface with the automated airspace planning and communications systems of the Joint Force Air Component Commander (JFACC).

TAIS Common Operating Environment (COE) convergence to Integrated Mission Planning and Airspace Control Tools (IMPACT) will provide interoperability with Army Mission Command, Joint, and UAP systems. This will facilitate AC capabilities, enhance situational understanding, reduce risks, and provide more effective Air-Ground Integration to enable Multi-Domain Operations (MDO), Joint All Domain Operations (JADO), and Joint All Domain Command and Control (JADC2). IMPACT will be instantiated across Command Post Computing Environment (CE), Mounted CE, and Mobile/Handheld CE and will extend AC services to the tactical edge.

TAIS/IMPACT will leverage Air Space Total Awareness for Rapid Tactical Execution (ASTARTE) technology. ASTARTE provides artificial intelligence and machine learning algorithms which will allow IMPACT to achieve more rapid synchronization of airspace planning and dynamic execution. This will enable commanders to maximize airspace usage, increase freedom of maneuver in the 3rd dimension, enhance safety and fratricide prevention, and enable seamless integration / deconfliction of fires and aviation operations in highly congested and complex environments during Large Scale Combat Operations (LSCO).

The Air Traffic Navigation Integration and Coordination System (ATNAVICS) is a highly mobile Airport Surveillance Radar and Precision Approach Radar system that provides Air Traffic Services at Army airfields and landing sites at Division, Corps, and Echelons above Corps to include services for Joint and Allied aircraft. ATNAVICS integrates capabilities to control aircraft both Outside of the Continental United States and in the Continental United States. ATNAVICS is upgrading the Interrogation Identification Friend-or-Foe (IFF) system to maintain international airspace compatibility, capture flight information through the reception of aircraft self-reporting data broadcasts, and process into an interconnected air picture.

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B. Program Change Summary (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	2.623	1.134	1.005	-	1.005
Current President's Budget	2.527	1.134	0.982	-	0.982
Total Adjustments	-0.096	0.000	-0.023	-	-0.023
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.096	-			
• Adjustments to Budget Years	-	-	-0.023	-	-0.023

Change Summary Explanation

The decrease in FY25 reduces investment in additional Mission Planning Capabilities into IMPACT Web Services to Provide Battalion and Above Support for Mission Planning. These capabilities include display of FLIP data on map, additional tactical message support possibly including K5.17 air overlay message.

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Army										Date: March 2024		
Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0604633A / <i>Air Traffic Control</i>				Project (Number/Name) 586 / <i>Air Traffic Control</i>			
COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
586: <i>Air Traffic Control</i>	-	2.527	1.134	0.982	-	0.982	0.539	0.544	0.551	0.557	0.000	6.834
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Tactical Airspace Integration System (TAIS) is the Army's program of record for Airspace Control (AC) and enroute Air Traffic Services (ATS). TAIS provides Airspace Management, planning, and dynamic execution capabilities at all echelons above Brigade, and enroute flight following air traffic services. TAIS is the only Army system with direct interface to the U.S. Air Force Air Operations Center (AOC) Weapon System for submission of the Army's requests for airspace from the Battlefield Coordination Detachment (BCD). Airspace Coordinating Measure Requests (ACMREQs) received from other mission command systems are passed to TAIS for approval or higher coordination. TAIS software supports U.S. Army commanders, airspace users, airspace managers, Army air traffic controllers, Joint organizations, and Unified Action Partners (UAP) by providing digitized, multi-echelon planning and execution of airspace management and Air Traffic Services. TAIS provides AC planning and enhanced AC execution; improved theater, intra-, and inter-Corps/Division Air Traffic Services (ATS) support; effective battlespace synchronization; and direct links to the Theater Air Ground System (TAGS) through interface with the automated airspace planning and communications systems of the Joint Force Air Component Commander (JFACC).

TAIS modernization is mandated through Common Operating Environment (COE) Software convergence, and eventually C2 Fix and Pivot strategies, to the Integrated Mission Planning and Airspace Control Tools (IMPACT). IMPACT contributes to four of the Army's six modernization priorities: future vertical lift, long range precision fires, the network, and air and missile defense. IMPACT also directly supports the National Military Strategy Joint force task of integrating capabilities rapidly. IMPACT is the software convergence of AC and will provide interoperability with Army Mission Command, Joint, and UAP systems. This will facilitate AC capabilities, enhance situational understanding, reduce risks, and provide more effective Air-Ground Integration to enable Multi-Domain Operations (MDO), Joint All Domain Operations (JADO), and Joint All Domain Command and Control (JADC2). IMPACT will be instantiated across Command Post Computing Environment (CE), Mounted CE, and Mobile/Handheld CE and will extend AC services to the tactical edge. Any changes driven by the C2 Pivot and Fix strategy will be assessed in terms of cost, schedule, and performance impacts to product development. The modernized software baseline is following Continuous Integration/Continuous Deployment (CI/CD) tenants of the Software Acquisition Pathway (SWP) of the Adaptive Acquisition Framework (AAF) to leverage the shift to more Agile acquisition to mirror modern Agile development and delivery. This includes use of Government owned Software Factories and DEVSECOPS processes to ensure that products are tested early and often to mitigate cyber and other vulnerabilities to delivery hardened code from the Minimum Viable Product (MVP) through all successive Minimum Viable Capability Releases (MVCR).

TAIS and IMPACT plans to leverage Air Space Total Awareness for Rapid Tactical Execution (ASTARTE) technology. ASTARTE provides artificial intelligence and machine learning algorithms which will allow IMPACT to achieve more rapid synchronization of airspace planning and dynamic execution. This will enable commanders to maximize airspace usage, increase freedom of maneuver in the 3rd dimension, enhance safety and fratricide prevention, and enable seamless integration / deconfliction of fires and aviation operations in highly congested and complex environments during Large Scale Combat Operations (LSCO). Persistent experimentation events like Project Convergence and COCOM sponsored exercises continue to confirm the existence of airspace planning and management challenges that are only increasing in complexity. IMPACT has been part of Project Convergence and Experimental Demonstration Gateway Event (EDGE) events in demonstrating critical mission threads showing a measurable reduction in sensor to shooter timelines.

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Army		Date: March 2024
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604633A / Air Traffic Control	Project (Number/Name) 586 / Air Traffic Control

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
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Title: Tactical Airspace Integration System (TAIS)	2.527	1.134	0.982
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Description: The Tactical Airspace Integration System (TAIS) is the Army's program of record for Airspace Control (AC) and enroute Air Traffic Services (ATS). TAIS provides Airspace Management, planning, and dynamic execution capabilities at all echelons above Brigade, and enroute flight following air traffic services. TAIS is the only Army system with direct interface to the U.S. Air Force Air Operations Center (AOC) Weapon System for submission of the Army's requests for airspace from the Battlefield Coordination Detachment (BCD). Airspace Coordinating Measure Requests (ACMREQs) received from other mission command systems are passed to TAIS for approval or higher coordination. TAIS software supports U.S. Army commanders, airspace users, airspace managers, Army air traffic controllers, Joint organizations, and Unified Action Partners (UAP) by providing digitized, multi-echelon planning and execution of airspace management and Air Traffic Services. TAIS provides AC planning and enhanced AC execution; improved theater, intra-, and inter-Corps/Division Air Traffic Services (ATS) support; effective battlespace synchronization; and direct links to the Theater Air Ground System (TAGS) through interface with the automated airspace planning and communications systems of the Joint Force Air Component Commander (JFACC).

TAIS Common Operating Environment (COE) convergence to Integrated Mission Planning and Airspace Control Tools (IMPACT) will provide interoperability with Army Mission Command, Joint, and UAP systems. This will facilitate AC capabilities, enhance situational understanding, reduce risks, and provide more effective Air-Ground Integration to enable Multi-Domain Operations (MDO), Joint All Domain Operations (JADO), and Joint All Domain Command and Control (JADC2). IMPACT will be instantiated across Command Post Computing Environment (CE), Mounted CE, and Mobile/Handheld CE and will extend AC services to the tactical edge.

TAIS/IMPACT will leverage Air Space Total Awareness for Rapid Tactical Execution (ASTARTE) technology. ASTARTE provides artificial intelligence and machine learning algorithms which will allow IMPACT to achieve more rapid synchronization of airspace planning and dynamic execution. This will enable commanders to maximize airspace usage, increase freedom of maneuver in the 3rd dimension, enhance safety and fratricide prevention, and enable seamless integration / deconfliction of fires and aviation operations in highly congested and complex environments during Large Scale Combat Operations (LSCO).

FY 2024 Plans:

Continue with IMPACT software development and testing to meet CD Operational Needs Requirements. Continue to develop JADC2 AC capabilities and AC service extension using MCIS and TAK frameworks, plugins, and services. Continue developing a solution to utilize common and enterprise services in all Computing Environments. Continue development for integration and direct machine interfaces to emerging Artificial Intelligence assisted decision making aids to leverage the Air Space Total Awareness for Rapid Tactical Execution (ASTARTE) technology.

FY 2025 Plans:

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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
Continue with IMPACT software development and testing to meet CD Operational Needs Requirements. Continue to develop JADC2 AC capabilities and AC service extension using Mission Command Information System (MCIS) and Tactical Assault Kit (TAK) frameworks, plugins, and services. Continue developing a solution to utilize common and enterprise services in all Computing Environments. Continue development for integration and direct machine interfaces to emerging Artificial Intelligence assisted decision making aids to leverage the Air Space Total Awareness for Rapid Tactical Execution (ASTARTE) technology.			
<i>FY 2024 to FY 2025 Increase/Decrease Statement:</i> The decreased funding reduces investment in additional Mission Planning Capabilities into IMPACT Web Services to Provide Battalion and Above Support for Mission Planning. These capabilities include display of FLIP data on map, additional tactical message support possibly including K5.17 air overlay message.			
Accomplishments/Planned Programs Subtotals	2.527	1.134	0.982

C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
• AA0050: Air Traffic Control	27.492	21.216	27.428	-	27.428	22.845	11.230	11.206	11.318	0.000	132.735

Remarks

D. Acquisition Strategy

This project is comprised of multiple systems supporting ATC development and test efforts. While the detailed acquisition strategy varies by program, the general strategy for each program is to complete development and testing efforts through contract modifications, engineering service tasks, and new/follow-on contracts. ATC systems are required to achieve or maintain compliance with civil, military, domestic and international air traffic control and upcoming Next Gen requirements and mandates as well as current aircraft self-reporting transponders.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Army **Date:** March 2024

Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604633A / Air Traffic Control	Project (Number/Name) 586 / Air Traffic Control
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Product Development (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
TAIS IMPACT Software Development	SS/T&M	General Dynamics C4S : Huntsville, AL	45.809	2.286	Jan 2022	0.837	Mar 2024	0.570	Mar 2024	-		0.570	Continuing	Continuing	Continuing
TAIS Cyber/JITC/CTSF Testing	MIPR	Redstone Test Center/CCDC : Redstone Arsenal, AL	0.161	0.241	Jan 2022	0.297	Jan 2024	0.412	Jan 2024	-		0.412	Continuing	Continuing	Continuing
Subtotal			45.970	2.527		1.134		0.982		-		0.982	Continuing	Continuing	N/A

	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract	
Project Cost Totals		45.970	2.527	1.134	0.982	-	0.982	Continuing	Continuing	N/A

Remarks
 PM: Program Management
 TAIS: Tactical Airspace Integration System

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Army **Date:** March 2024

Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604633A / <i>Air Traffic Control</i>	Project (Number/Name) 586 / <i>Air Traffic Control</i>
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Event Name	FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
	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	4
TAIS and IMPACT Software Development																												
	TAIS																											

Note
TAIS: Tactical Airspace Integration System

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Army **Date:** March 2024

Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604633A / <i>Air Traffic Control</i>	Project (Number/Name) 586 / <i>Air Traffic Control</i>
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Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
TAIS and IMPACT Software Development	1	2022	4	2036

Note
TAIS: Tactical Airspace Integration System