

UNCLASSIFIED

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

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0401130F / <i>C-17 Aircraft (IF)</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
Total Program Element	-	25.387	2.753	17.395	0.000	17.395	27.998	82.177	127.463	129.980	0.000	413.153
672569: <i>C-17A Aircraft</i>	-	25.387	2.753	17.395	0.000	17.395	27.998	82.177	127.463	129.980	0.000	413.153
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

Note
 This program, BA 7, PE 0401130F, project 672569, Databus Collection & Analytics (DBCA), is a new start.
 This program, BA 7, PE 0401130F, project 672569, Aircraft Connectivity, is a new start.

A. Mission Description and Budget Item Justification

The four-engine C-17 is the only aircraft capable of routine delivery of outsize cargo (tanks, helicopters, etc.) to short, austere airfields. The aircraft can carry up to 102 troops, 36 litter patients or 18 standard 463-L pallets. The C-17 can perform the entire spectrum of airlift missions and is specifically designed to operate effectively and efficiently in both strategic and theater environments. Not only can the C-17 deliver outsize cargo to austere tactical environments, but it also reduces ground time during air and land operations.

Strategic Airlift provides essential flexibility when responding to contingencies on short notice anywhere in the world. It is a major element of America's national security strategy and constitutes the most responsive means of meeting mobility requirements. Specific tasks associated with the airlift mission include deployment, employment, sustaining support, retrograde, aeromedical evacuation, and combat redeployment. The C-17 will perform this airlift mission well into this century.

C-17 Research, Development, Test & Evaluation (RDT&E) funding efforts support, but are not limited to: Aircraft performance improvements, aircraft mission execution and airspace access mandates (i.e., Communications/Navigation Improvements); flight test activities and facilities; development of solutions for obsolescence and safety of flight issues; systems engineering/program support; support for avionics laboratories; software development, test and integration; block development/change management; developments of solutions for needed upgrades to combat obsolescence and safety of flight issues; and proposal preparation for new projects. Funding supports efforts to include but not limited to Flight Deck Replacement (FDR), Beyond Line of Sight (BLOS), Databus Collection and Analytics (DBCA), Aircraft Connectivity, fuel efficiency and emissions reduction, and studies to assess survivability effects of different defensive systems not equipped on C-17 aircraft.

This funding includes Rapid Global Mobility (RGM) platform-related rapid capability development process activities including early planning, analysis and systems engineering activities which provide linkages between operational needs, system performance requirements, technology needs and opportunities, potential lifecycle costs and enabling the technical foundation for material development.

This requirement supports performance of a full financial audit as required by title 10 U.S.C. Chapter 9A, Sec 240-D.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such programs funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F,

UNCLASSIFIED

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

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0401130F / <i>C-17 Aircraft (IF)</i>
--	---

0606398F. In FY 2023 \$0.750M was expended for civilian pay expenses in this program element, and in FY 2024 \$1.878M is forecasted for civilian pay expenses in this program element.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Program Change Summary (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	25.387	2.753	12.373	0.000	12.373
Current President's Budget	25.387	2.753	17.395	0.000	17.395
Total Adjustments	0.000	0.000	5.022	0.000	5.022
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	-5.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	5.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	5.022	0.000	5.022

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: 672569: *C-17A Aircraft*

Congressional Add: *Aircraft Protective Systems Development*

Congressional Add Subtotals for Project: 672569

Congressional Add Totals for all Projects

	FY 2023	FY 2024
	5.000	0.000
	5.000	0.000
	5.000	0.000

Change Summary Explanation

FY 2023 funding request decrease of \$5.000 million due to Congressional Directed Reduction for "BLOS under-execution and program growth."

FY 2025 funding request increase for \$5.022 million to support Flight Deck Replacement acquisition activities, Databus Collection and Analytics, and Aircraft Connectivity efforts.

C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
Title: Beyond Line of Sight (BLOS)	18.721	0.779	0.200

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force		Date: March 2024		
Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>		R-1 Program Element (Number/Name) PE 0401130F / <i>C-17 Aircraft (IF)</i>		
C. Accomplishments/Planned Programs (\$ in Millions)		FY 2023	FY 2024	FY 2025
<p>Description: Beyond Line-Of-Sight (BLOS) modernization modification is a development, integration, and retrofit program for C-17 communications. BLOS modifies and improves hardware and software for voice and data communications on the C-17. The program will modify both integrated aircraft avionics as well as back-end mission communications and could utilize both military and commercial satellite systems to extend communication ranges. The current efforts include but are not limited to Aero-I/Aero-H modernizations and Comm Mod. It includes support for on-going C-17 flight test programs, software labs, and system engineering activities including Aircraft Protective Systems Development (APSD) for C-17 research and development programs.</p> <p>FY 2024 Plans: BLOS program continues Test & Evaluation activities and certification efforts.</p> <p>FY 2025 Plans: Continuation of BLOS Test & Evaluation activities and certification efforts.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Funding decreased due to reduced BLOS testing efforts.</p>				
<p>Title: Roll-On Conference Capsule (ROCC)</p> <p>Description: ROCC is a program to replace current Silver Bullet Capsules and includes development/design. Effort will allow US Government senior leaders and staff to work, communicate, and rest in airworthy capsules during long range missions into threat areas, with the protection of the C-17A Globemaster III's defensive systems capability. Specifically, the development phase of the ROCC, (formerly referred to as the Silver Bullet Replacement (SBR) program) will require non-recurring engineering, manufacture of the first article and testing. Support for flight test, software labs, system engineering, program management and engineering/acquisition studies not related to requirements generation are included in the overall cost.</p> <p>FY 2024 Plans: N/A</p> <p>FY 2025 Plans: N/A</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: N/A</p>		1.666	0.000	0.000
<p>Title: Databus Collection & Analytics (DBCA)</p> <p>Description: Databus Collection and Analytics (DBCA), previously Databus Reporting System (DBRS), has been renamed to highlight both the hardware and analytics capabilities instead of focusing primarily on hardware. DBCA will capture and apply</p>		-	0.000	5.000

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force		Date: March 2024		
Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>		R-1 Program Element (Number/Name) PE 0401130F / <i>C-17 Aircraft (IF)</i>		
C. Accomplishments/Planned Programs (\$ in Millions)		FY 2023	FY 2024	FY 2025
<p>analytics to all data present across all databuses on the C-17 aircraft to provide and drive efficiencies in predictive maintenance, operations, training, safety considerations and cybersecurity concerns. This comprehensive aircraft data collection system will record, transfer and retain, process and analyze, and provide aircraft and fleet recommendations.</p> <p>Data analysis to be comprehensive enough to forecast/trend root-cause analysis, drive predictive maintenance decisions, accomplish propulsion/APU health trending programs, and provide sortie reconstruction for operator training/debriefing.</p> <p>FY 2024 Plans: N/A</p> <p>FY 2025 Plans: Pre-acquisition contracting activities to support contract award.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Funding increased due to startup of pre-acquisition planning and contracting activities.</p>				
<p>Title: Program Office Test Support</p> <p>Description: Includes Contractor Flight Test support to continue contractor testing of new capabilities as required. Costs include maintenance on test aircraft, contractor engineering support for test related technical and safety of flight issues, test planning, test analysis, and support of test execution. It also includes Edwards AFB Flight Test Support where direct costs are related to flight testing and include ramp space, fuel, air traffic control, range costs, etc., which are items each weapon system must pay when using Air Force flight test locations.</p> <p>FY 2024 Plans: "Stand Alone" Major Thrust starts in FY25</p> <p>FY 2025 Plans: Work continues to support existing C-17 programs and enables other capabilities to be tested and developed.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Program Office Test Support is a new "stand alone" Major Thrust effort starting in FY25. Work was previously performed under other programs in the past.</p>		-	0.000	5.899
<p>Title: Aircraft Connectivity</p>		-	0.000	0.200

UNCLASSIFIED

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

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0401130F / <i>C-17 Aircraft (IF)</i>
--	---

C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
<p>Description: Aircraft Connectivity is a requirement for Line-of-Sight (LOS) and Beyond-Line-of-Sight (BLOS) connectivity capability on the C-17. This will enable maximum Mobility Air Forces (MAF) connectivity and real-time secure command and control for aircrew situational awareness.</p> <p>FY 2024 Plans: N/A</p> <p>FY 2025 Plans: Pre-acquisition contracting activities to support contract award.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Funding increased due to startup of pre-acquisition planning and contracting activities.</p>			
<p>Title: Flight Deck Replacement (FDR)</p> <p>Description: Flight Deck Replacement (FDR) is a development, integration, and retrofit program seeking to modernize the C-17 fight deck. The program replaces the obsolete mission flight computer (core integrated processors (CIP)), multi-function displays (MFD), standby engine displays (SED), video integrated processor (VIP), and provides updates for the affected simulators/trainers/labs. The program's capabilities provide an open systems architecture enabling future modular "plug and play", advancing C-17 flight deck components to current industry standards.</p> <p>FY 2024 Plans: Pre-acquisition activities to support contract award.</p> <p>FY 2025 Plans: Start of engineering and manufacturing development activities to include but not limited to software development, data, cyber security, testing, integration laboratory updates, and other program support activities.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Funding increased due to startup of development activities.</p>	0.000	1.974	6.096
Accomplishments/Planned Programs Subtotals	20.387	2.753	17.395

	FY 2023	FY 2024
Congressional Add: Aircraft Protective Systems Development	5.000	0.000

UNCLASSIFIED

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

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0401130F / <i>C-17 Aircraft (IF)</i>
--	---

	FY 2023	FY 2024
FY 2023 Accomplishments: Began study to assess survivability benefits and secondary effects of different defensive systems not currently equipped on C-17 aircraft.		
FY 2024 Plans: N/A		
Congressional Adds Subtotals	5.000	0.000

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

<u>Line Item</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u> <u>Base</u>	<u>FY 2025</u> <u>OCO</u>	<u>FY 2025</u> <u>Total</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>FY 2028</u>	<u>FY 2029</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• APAF 05 Line Item C01700: C-17A	133.779	140.560	103.306	-	103.306	139.078	140.810	181.645	209.181	0.000	1,048.359
• APAF 06 Line Item 000999: <i>Initial Spares/Repair Parts</i>	7.210	11.637	10.405	-	10.405	2.549	6.473	7.992	8.151	0.000	54.417

Remarks

E. Acquisition Strategy

The C-17 Acquisition Strategy is based on several separate contracts to support the entire scope of the C-17 weapon system. Globemaster Operational Enhancement (GLOBE) is an indefinite delivery, indefinite quantity (IDIQ) contract used to purchase services and research articles (through delivery orders) to support all RDT&E with our prime contractor. In addition, purchase orders are used to support flight test activities within the projects at Edwards AFB. Additional contract vehicles could be utilized as required.

UNCLASSIFIED

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

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0401130F / C-17 Aircraft (IF)	Project (Number/Name) 672569 / C-17A Aircraft
--	--	---

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			
C-17 BLOS- Beyond Line of Sight	Various	Boeing : Long Beach, CA	-	22.871	Nov 2022	0.779	Feb 2024	0.200	Nov 2024	-		0.200	Continuing	Continuing	72.136
C-17 ROCC- Roll -On Conference Capsule	Various	Select Tech : Centerville, OH	-	1.766	Dec 2022	-		-		-		-	Continuing	Continuing	10.788
C-17 FDR- Flight Deck Replacement	SS/CPFF	Boeing : Long Beach, CA	-	-		0.096	Mar 2024	4.319	Dec 2024	-		4.319	Continuing	Continuing	-
C-17 DBCA - Databus Collection and Analytics	TBD	Not specified. : TBD	-	-		-		5.000	Mar 2025	-		5.000	Continuing	Continuing	-
C-17 Aircraft Connectivity	TBD	Not specified. : TBD	-	-		-		0.200	Feb 2025	-		0.200	Continuing	Continuing	-
Program Office Test Support	Various	Boeing & Gov't personnel : TBD	-	-		-		5.899	Oct 2024	-		5.899	Continuing	Continuing	-
Subtotal			-	24.637		0.875		15.618		-		15.618	Continuing	Continuing	N/A

Support (\$ 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			
Direct Cite Authority Civilian Pay	Various	Not specified. : TBD	-	0.750	Dec 2022	1.878	Mar 2024	1.777	Oct 2024	-		1.777	Continuing	Continuing	-
Subtotal			-	0.750		1.878		1.777		-		1.777	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		-	25.387	2.753	17.395	-	17.395	Continuing	Continuing	N/A

Remarks

UNCLASSIFIED

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

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0401130F / C-17 Aircraft (IF)	Project (Number/Name) 672569 / C-17A Aircraft
--	--	---

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

C-17	
Beyond Line of Sight (BLOS)	
Roll-On Conference Capsules (ROCC)	
Flight Deck Replacement (FDR)	
Databus Collection and Analytics	
Aircraft Connectivity	
Aircraft Protective Systems Development	
Program Office Test Support	

UNCLASSIFIED

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

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0401130F / C-17 Aircraft (IF)	Project (Number/Name) 672569 / C-17A Aircraft
--	--	---

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
C-17				
Beyond Line of Sight (BLOS)	1	2023	4	2025
Roll-On Conference Capsules (ROCC)	1	2023	1	2025
Flight Deck Replacement (FDR)	2	2024	4	2029
Databus Collection and Analytics	2	2025	2	2027
Aircraft Connectivity	2	2025	4	2028
Aircraft Protective Systems Development	4	2023	4	2024
Program Office Test Support	1	2025	4	2029