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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Air Force **Date:** May 2021

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>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	-	20.653	9.935	16.360	0.000	16.360	-	-	-	-	-	-
672569: <i>C-17A Aircraft</i>	-	20.653	9.935	16.360	0.000	16.360	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

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. 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, and combat redeployment. Not only can the C-17 deliver outsize cargo to austere tactical environments, but it also reduces ground time during air/land operations. The C-17 will perform its 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 management administration support; support for avionics laboratories; software development, test and integration; block development/change management; proposal preparation for new projects; cost estimating and engineering/acquisition studies not related to requirements generation.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver the C-17 Aircraft (IF) weapon system capability. The use of such programs funds would be in addition to the civilian pay expenses budgeted in program element 0605831F. In FY 2020 \$0.534 million was expended for civilian pay expenses in this program element, and in FY 2021 \$0.737 million is forecasted for civilian pay expenses in this program element.

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

In FY22 the efforts are: Roll-On Conference Capsule (ROCC) and Beyond Line of Sight (BLOS) which will be covered in more detail on subsequent pages.

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 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.

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B. Program Change Summary (\$ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	21.101	9.991	9.616	0.000	9.616
Current President's Budget	20.653	9.935	16.360	0.000	16.360
Total Adjustments	-0.448	-0.056	6.744	0.000	6.744
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-0.448	0.000			
• Other Adjustments	0.000	-0.056	6.744	0.000	6.744

Change Summary Explanation

FY 2020 funding decrease for \$0.448 million for Small Business Innovation Research.

FY 2022 funding request increase for \$6.744 million for BLOS requirements as transitions into combined DT/OT&E.

C. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
Title: Beyond Line of Sight (BLOS)	19.441	8.719	15.360
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 flight test, software labs, system engineering, program management and engineering/acquisition studies not related to requirements generation.			
FY 2021 Plans: BLOS effort continues with major design milestones occurring and completes development and test activities.			
FY 2022 Plans: BLOS effort continues with major design milestones occurring for efforts related to Test & Evaluation, Lab H/W & S/W Qualification.			
FY 2021 to FY 2022 Increase/Decrease Statement: Funding increased due to BLOS effort transition into combined DT/OT&E and major design milestones.			
Title: Roll-On Conference Capsule (ROCC)	1.212	1.216	1.000

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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<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 2021 Plans: ROCC development effort continues in FY21 to include flight test, software labs, system engineering, program management and engineering/acquisition studies support.</p> <p>FY 2022 Plans: Continuation of ROCC development efforts to include flight test, software labs, system engineering, program management and engineering/acquisition studies support.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: Funding decrease due to anticipated completion of ROCC development efforts.</p>			
Accomplishments/Planned Programs Subtotals	20.653	9.935	16.360

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

Line Item	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
• APAF 05 Line Item C01700: C-17A	55.916	44.798	59.570	-	59.570	-	-	-	-	-	-
• APAF 07 Line Item C01700: C-17A	132.634	0.000	0.000	-	0.000	-	-	-	-	-	-
• APAF 06 Line Item 000999: <i>Initial Spares/Repair Parts</i>	8.602	47.774	21.090	-	21.090	-	-	-	-	-	-
• OPAF 03 Line Item 834070: <i>Mobility Command and Control</i>	10.817	-	-	-	-	-	-	-	-	-	-

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

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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.

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Air Force **Date:** May 2021

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0401130F / C-17 Aircraft (IF)	Project (Number/Name) 672569 / C-17A Aircraft
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FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
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) (ACAT III)	
Roll-On Conference Capsules (ROCC) (ACAT III)	

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Air Force **Date:** May 2021

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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
C-17				
Beyond Line of Sight (BLOS) (ACAT III)	1	2020	4	2023
Roll-On Conference Capsules (ROCC) (ACAT III)	1	2020	4	2022