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

Appropriation/Budget Activity					R-1 Program Element (Number/Name)							
3600: <i>Research, Development, Test & Evaluation, Air Force I BA 4: Advanced Component Development & Prototypes (ACD&P)</i>					PE 0604776F / <i>Deployment & Distribution Enterprise R&D</i>							
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	-	27.618	25.788	40.103	0.000	40.103	-	-	-	-	-	-
640211: <i>GLOBAL ACCESS</i>	-	7.493	5.633	9.484	0.000	9.484	-	-	-	-	-	-
640212: <i>C2/OPTIMIZATION/MODELING AND SIMULATION</i>	-	14.767	14.726	24.958	0.000	24.958	-	-	-	-	-	-
640213: <i>CYBER</i>	-	5.358	5.429	5.461	0.000	5.461	-	-	-	-	-	-
640215: <i>Transportation Management Service</i>	-	0.000	0.000	0.200	0.000	0.200	-	-	-	-	-	-

Note

- This program, BA 4, PE 0604776F, project 640212, Joint Transportation Management System, is a new start.
- This program, BA 4, PE 0604776F, project 640212, Ares Dynamic Network Automation, is a new start.
- This program, BA 4, PE 0604776F, project 640212, Resilient Logistics JCTD, is a new start.
- This program, BA 4, PE 0604776F, project 640212, Safety Analysis of Modified Midwest Guardrail, is a new start.
- This program, BA 4, PE 0604776F, project 640212, Aerial Delivery and Autonomous Deployment of Unmanned Vehicles, is a new start.
- This program, BA 4, PE 0604776F, project , Transportation Financial Product Development, is a new start.

A. Mission Description and Budget Item Justification

This program provides for the development, integration, demonstration and detailed assessment of capabilities which improve deployment, distribution and supply chain decision-making/collaboration (e.g., planning stage to real-time execution/retrograde operations) without need for highly specialized operators. Projects in this area address the following: decision support tools, distribution process simulations/analytics, distribution demand forecasting/execution monitoring, automated decision-maker support (e.g., queuing, alerting, courses of action), automated status monitoring with information fusion to include drilldown capability, and resilient Command & Control (C2) infrastructure capabilities. Current planning, forecasting, and collaboration capabilities do not permit full synchronization of people, processes and assets to execute planned operations. Automated tools must be able to dynamically analyze/predict demand and provide input to advanced distribution planning systems to include the capability for Combatant Commanders to manage theater transportation operations from the port of debarkation to the point of need. Transportation information exchange across the DOD is inhibited by disparate systems, multiple data standards and insufficient interfaces. The ability to rapidly determine the impact of any delays/changes and conduct "what-if" impact assessments on the closure of force packages is required. This project addresses the required mission support to combatant commanders and other customers in the area of C2, Optimization, and Modeling and Simulations.

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 0605831F. In FY20 \$0M was expended for civilian pay expenses in this program element, and in FY21 \$0M is forecasted for civilian pay expenses in this program element.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Air Force	Date: May 2021
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 4: Advanced Component Development & Prototypes (ACD&P)</i>	R-1 Program Element (Number/Name) PE 0604776F / <i>Deployment & Distribution Enterprise R&D</i>
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This effort is in Budget Activity 4, Advanced Component Development and Prototypes (ACD&P), because efforts are necessary to evaluate integrated technologies, representative modes or prototype systems in a high fidelity and realistic operating environment.

B. Program Change Summary (\$ in Millions)	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022 Base</u>	<u>FY 2022 OCO</u>	<u>FY 2022 Total</u>
Previous President's Budget	28.034	25.835	30.006	0.000	30.006
Current President's Budget	27.618	25.788	40.103	0.000	40.103
Total Adjustments	-0.416	-0.047	10.097	0.000	10.097
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	-0.047			
• 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	-0.416	0.000			
• Other Adjustments	0.000	0.000	10.097	0.000	10.097

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

Appropriation/Budget Activity 3600 / 4	R-1 Program Element (Number/Name) PE 0604776F / <i>Deployment & Distribution Enterprise R&D</i>	Project (Number/Name) 640211 / <i>GLOBAL ACCESS</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
640211: <i>GLOBAL ACCESS</i>	-	7.493	5.633	9.484	0.000	9.484	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

This program provides for the development, integration, demonstration and detailed assessment of DOD procedures/technologies targeted at optimizing throughput at the nodes as well as across the conduits of the deployment and distribution supply chains, from origin to point of use as well as return. Needed capabilities include inventory/cargo management, materiel handling innovations, improved physical node access, port throughput improvements, innovative delivery methods (e.g., precision airlift, autonomous re-supply), and cargo/container security. This project addresses required mission support to combatant commanders and other customers of DOD's distribution and transportation systems in the area of deployment/distribution velocity management, manned/unmanned systems to the point of effect, and increased global reach in austere/anti-access environments.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
<p>Title: COVID Commercial Aircraft Air Flow Test</p> <p>Description: Test how COVID virus spreads in commercial aircraft cabins</p> <p>FY 2021 Plans: Project ended in FY20</p> <p>FY 2022 Base Plans: No funding requested</p>	0.520	0.000	0.000	-	0.000
<p>Title: Contingency Response Wing Mobile Power Generation</p> <p>Description: Develop a light weight mobile generator</p> <p>FY 2021 Plans: Project ended FY20</p> <p>FY 2022 Base Plans: No funding requested</p>	0.500	0.000	0.000	-	0.000
<p>Title: Petroleum Undersea Sustainment Hose</p> <p>Description: Provide an agile, submersible over-the-shore conduit that can be pre-positioned or immediately employed from vessels of opportunity such as a commercial offshore supply vessel (OSV).</p>	-	0.400	0.450	-	0.450

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Appropriation/Budget Activity 3600 / 4	R-1 Program Element (Number/Name) PE 0604776F / <i>Deployment & Distribution Enterprise R&D</i>	Project (Number/Name) 640211 / <i>GLOBAL ACCESS</i>			
B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
<p>FY 2021 Plans: Develop a submersible over-the-shore conduit</p> <p>FY 2022 Base Plans: Addresses Sea Basing Technologies/Logistics-Over-The-Shore need to enhance the Joint Force Commander's flexibility</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: No significant change</p>					
<p>Title: Collision Avoidance and Navigation Insight System</p> <p>Description: Autonomous Technologies applied to the 60K Tunner to improve throughput and safety</p> <p>FY 2021 Plans: Test semi autonomous technologies</p> <p>FY 2022 Base Plans: Test semi autonomous technologies</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: Development varies by FY</p>	0.250	0.500	1.150	-	1.150
<p>Title: Joint Deployable Airborne Package</p> <p>Description: Airworthiness certification for a rapidly deployable, modular and scalable airborne C4 communications platform to replace the current antiquated and end-of-life Joint Airborne Communications Center/Command Post</p> <p>FY 2021 Plans: Project ends in FY20</p> <p>FY 2022 Base Plans: No funding requested</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: Project ended in FY20.</p>	0.078	0.000	0.000	-	0.000
<p>Title: Submersible Matting</p>	0.000	0.500	1.000	-	1.000

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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
<p>Description: Develop a submersible matting system (SUBMAT) to facilitate mobility across the shoreline and wet/dry gaps by combining current soil stability technology and mobility matting into a single product.</p> <p>FY 2021 Plans: Design for manufacture analysis and preliminary fabrication</p> <p>FY 2022 Base Plans: Design for manufacture analysis and preliminary fabrication</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: Project varies by year.</p>					
<p>Title: Rapid Available Interface for trans-Loading</p> <p>Description: Provides a process to rapidly assess the condition, design acceptable repairs and delivers pre-kitted rail repair and retrofit solutions. The standardized repair kits allows for the development of Tactics, Techniques and Procedures (TTPs) for each repair that can be scaled to address a range of damages.</p> <p>FY 2021 Plans: Identify and develop a robotic survey vehicle integrated with rail condition survey equipment.</p> <p>FY 2022 Base Plans: Work will identify and develop a robotic survey vehicle integrated with rail condition survey equipment.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: Development varies by FY</p>	0.050	0.450	0.694	-	0.694
<p>Title: Repair and Retrofit of Railway Systems</p> <p>Description: The standardized repair kits allows for the development of Tactics, Techniques and Procedures (TTPs) for each repair that can be scaled to address a range of damages.</p> <p>FY 2021 Plans: Identify and develop a robotic survey vehicle integrated with rail condition survey equipment.</p> <p>FY 2022 Base Plans: Work will identify and develop a robotic survey vehicle integrated with rail condition survey equipment.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement:</p>	0.000	0.500	0.250	-	0.250

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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Development varies by FY					
<p>Title: Drone Supported Surface Deployment</p> <p>Description: Determine the suitability of using modern drones and drone mapping technology for capturing data for input to systems such as the Integrated Computerized Deployment System (ICODES) and the Transportation Geospatial Information System (TGIS)</p> <p>FY 2021 Plans: Analyze RFID Hardware, Middleware and Software</p> <p>FY 2022 Base Plans: Will analyze RFID Hardware, Middleware and Software</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: Development varies by FY</p>	0.000	0.348	0.250	-	0.250
<p>Title: Buoyant Roll On/Roll Off Interface Kit</p> <p>Description: Prototype consisting of the RO/RO ramp to interface to a commercial supply vessel and a section of floating causeway and ancillary equipment sufficient to conduct a limited operational assessment</p> <p>FY 2021 Plans: Develop a prototype rapidly deployable ship-to-shore connector capability</p> <p>FY 2022 Base Plans: Develop a prototype rapidly deployable ship-to-shore connector capability</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: Development varies by FY</p>	0.000	0.100	0.800	-	0.800
<p>Title: 35 Thousand Foot Airdrop</p> <p>Description: Develop capabilities to airdrop from 35 thousand feet to increase aircraft standoff range from threat.</p> <p>FY 2021 Plans: parafoil and parachute technologies</p> <p>FY 2022 Base Plans:</p>	0.000	0.650	1.000	-	1.000

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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
parafoil and parachute technologies FY 2021 to FY 2022 Increase/Decrease Statement: Development varies by FY					
Title: Interoperable Multi-modal Patient Movement Description: Create system to move mass casualties when air medivac is not available FY 2021 Plans: Continue development and testing FY 2021 to FY 2022 Increase/Decrease Statement: Project ends in FY21	0.693	0.410	-	-	-
Title: Replenishment from Ships to Point of Need Delivery Description: Unmanned system launched from ships and capable of carrying supplies up to 100 miles inland. FY 2021 Plans: Development of technologies to support required payloads and distances FY 2022 Base Plans: Development of technologies to support required payloads and distances FY 2021 to FY 2022 Increase/Decrease Statement: Development varies by year	0.475	0.750	1.350	-	1.350
Title: Use of Dual Row Airdrop System with Joint Light Tactical Vehicle Description: Increasing the strength of C-17 dual row rails to enable dropping the JLTV FY 2021 Plans: Applying technologies and testing results FY 2022 Base Plans: Applying technologies and testing results FY 2021 to FY 2022 Increase/Decrease Statement:	0.030	0.275	1.025	-	1.025

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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Development varies by FY					
Title: Enhanced Vision Navigation for Joint Precision Airdrop System (Supports FY17 AAIRDUCT JCTD) Description: Advanced technologies to improve airdrop capabilities to the warfighter. FY 2021 Plans: Program support requirements FY 2022 Base Plans: Program support requirements FY 2021 to FY 2022 Increase/Decrease Statement: No significant change	0.505	0.130	0.515	-	0.515
Title: Expeditionary End-to-End Fueling Concept Description: Addressing gap in theater fuel delivery/distribution capabilities to inform the development of the Army Early Entry Fluid Distribution System as well as provide a development path for Navy/USMC ship-to-shore capabilities. FY 2021 Plans: Continue over the shore fueling development FY 2022 Base Plans: N/A FY 2021 to FY 2022 Increase/Decrease Statement: Project ends in FY21	1.000	0.150	0.000	-	0.000
Title: Advanced Planning for Global Response Force Mission Description: Create and leverage analytical and visual tools to provide planners the ability to streamline GRF missions, integrating aircraft load planning with sophisticated airdrop mission simulations. FY 2021 Plans: No effort in 2021 FY 2022 Base Plans:	0.900	0.000	0.000	-	0.000

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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
N/A					
<p>Title: Autonomous Drone Delivery from Airdrop Systems</p> <p>Description: An air-droppable Unmanned Aircraft System (UAS) to conduct resupply missions in densely populated urban areas.</p> <p>FY 2021 Plans: continued development and testing</p> <p>FY 2022 Base Plans: N/A</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: Project ends in FY21</p>	0.850	0.220	0.000	-	0.000
<p>Title: Mini Robotic Dredge</p> <p>Description: Prototype a tactical dredging capability to deepen an usable port facility</p> <p>FY 2021 Plans: No effort in 2021</p> <p>FY 2022 Base Plans: N/A</p>	0.624	0.000	0.000	-	0.000
<p>Title: Optimized HALO Delivery using Probablistic Airdrop Planner</p> <p>Description: A low-cost, low-complexity solution to deliver payloads at improved accuracy, compared to standard ballistic parachutes, but without the expensive parafoil and guidance systems</p> <p>FY 2021 Plans: no effort in 2021</p> <p>FY 2022 Base Plans: N/A</p>	0.268	0.000	0.000	-	0.000
<p>Title: Expedient and Expeditionary Airfield Damage Repair</p>	0.500	0.000	0.000	-	0.000

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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
<p>Description: Provide a truly expeditionary, indigenous-material based repair capability to support high pace, aircraft sortie generation, recovery and egress</p> <p>FY 2021 Plans: No effort in 2021</p> <p>FY 2022 Base Plans: N/A</p>					
<p>Title: Resilient Expeditionary Agile Littoral Logistics</p> <p>Description: Transfer of fuel ashore from various conveyances from off-shore platform</p> <p>FY 2021 Plans: Technology development of fuel transfer</p> <p>FY 2022 Base Plans: Technology development of fuel transfer</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: Development varies by FY</p>	0.250	0.250	1.000	-	1.000
Accomplishments/Planned Programs Subtotals	7.493	5.633	9.484	-	9.484

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

Remarks

D. Acquisition Strategy

Requirements for joint deployment and distribution enterprise technology enhancements are annually identified, validated and prioritized by the Joint Deployment & Distribution Enterprise (JDDE) community. Pursuit of the development of new capabilities to meet these requirements is managed by the United States Transportation Command (USTRANSCOM). Prototype products, once evaluated by the users, are spirally transitioned by the operational community.

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

<i>Deployment and Distribution</i>																												
Integrated Logistics Support																												

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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
<i>Deployment and Distribution</i>				
Integrated Logistics Support	1	2020	4	2026

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Appropriation/Budget Activity 3600 / 4					R-1 Program Element (Number/Name) PE 0604776F / <i>Deployment & Distribution Enterprise R&D</i>				Project (Number/Name) 640212 / <i>C2/OPTIMIZATION/MODELING AND SIMULATION</i>			
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
640212: <i>C2/OPTIMIZATION/MODELING AND SIMULATION</i>	-	14.767	14.726	24.958	0.000	24.958	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

This program, BA 4, PE 0604776F, project 640212, Joint Transportation Management System, is a new start.
 This program, BA 4, PE 0604776F, project 640212, Ares Dynamic Network Automation, is a new start.
 This program, BA 4, PE 0604776F, project 640212, Resilient Logistics JCTD, is a new start.
 This program, BA 4, PE 0604776F, project 640212, Safety Analysis of Modified Midwest Guardrail, is a new start.
 This program, BA 4, PE 0604776F, project 640212, Aerial Delivery and Autonomous Deployment of Unmanned Vehicles, is a new start.

A. Mission Description and Budget Item Justification

This program provides for the development, integration, demonstration and detailed assessment of capabilities which improve deployment, distribution and supply chain decision-making/collaboration (e.g., planning stage to real-time execution/retrograde operations) without need for highly specialized operators. Projects in this area address the following: decision support tools, distribution process simulations/analytics, distribution demand forecasting/execution monitoring, automated decision-maker support (e.g., queuing, alerting, courses of action), automated status monitoring with information fusion to include drilldown capability, and resilient Command & Control (C2) infrastructure capabilities. Current planning, forecasting, and collaboration capabilities do not permit full synchronization of people, processes and assets to execute planned operations. Automated tools must be able to dynamically analyze/predict demand and provide input to advanced distribution planning systems to include the capability for Combatant Commanders to manage theater transportation operations from the port of debarkation to the point of need. Transportation information exchange across the DOD is inhibited by disparate systems, multiple data standards and insufficient interfaces. The ability to rapidly determine the impact of any delays/changes and conduct "what-if" impact assessments on the closure of force packages is required. This project addresses the required mission support to combatant commanders and other customers in the area of C2, Optimization, and Modeling and Simulations. The Joint Transportation Management System (JTMS) will develop and configure a commercial-off-the-shelf (COTS) transportation/financial management product to deliver DoD enterprise-wide end-to-end transportation and transportation-related financial business process reform.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Title: TRANSCOM Innovation	2.477	5.389	3.266	-	3.266
Description: Rapidly develop and integrate technology solutions for the enterprise					
FY 2021 Plans:					

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B. Accomplishments/Planned Programs (\$ in Millions)					
Description: Deliver logistical deception kits to confuse and deny enemy Intelligence, Surveillance, Reconnaissance (ISR)					
FY 2021 Plans: FY22 New Start					
FY 2022 Base Plans: Develop deception kits					
FY 2021 to FY 2022 Increase/Decrease Statement: FY22 New Start					
Title: Air Refueling Optimization					
Description: System managing the various phases of the Air Refueling (AR) fleet management, validation, allocation and execution process.					
FY 2021 Plans: Develop opportunities that our current air refueling planning systems lack: optimization algorithms that provide a range of strategic decision space					
FY 2022 Base Plans: Continue development of opportunities that our current A/R planning systems lack: optimization algorithms that provide a range of strategic decision space					
FY 2021 to FY 2022 Increase/Decrease Statement: Development varies each year					
Title: Safety Analysis of Modified Midwest Guardrail					
Description: Research and physical testing to gather and analyze data for improving Entry Control Facilities (ECF) design and operations, improve road safety on installations, and reduce overall costs					
FY 2021 Plans: FY22 New Start					
FY 2022 Base Plans:					
	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
	-	0.600	0.200	-	0.200
	-	0.000	0.700	-	0.700

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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Establish entry control facilities ECF guardrail standards to mitigate terrorism/asymmetric threats FY 2021 to FY 2022 Increase/Decrease Statement: FY22 New Start					
Title: Data Lake Description: Develop and demonstrate the capability that allows incongruent data to be brought together to provide automated decision support. FY 2021 Plans: Continue data analytics development FY 2022 Base Plans: Continue data analytics development FY 2021 to FY 2022 Increase/Decrease Statement: Development varies by FY	1.058	0.372	0.475	-	0.475
Title: End-to-End Deployment and Distribution Modeling Description: Provide an integrated deployment/distribution environment to provide continuous and optimal balancing of total demand verse capacity from planning through mission execution. FY 2021 Plans: Increase analytical capability for DoD programmatic studies and analysis FY 2022 Base Plans: N/A FY 2021 to FY 2022 Increase/Decrease Statement: Requirements decreased	2.500	2.300	0.300	-	0.300
Title: Massachusetts Institute of Technology Lincoln Labs Description: Partnership with MIT-LL to research efforts to improve enterprise operational architecture supporting high-end analytics, integrated information technology/data structures, understanding of cloud capabilities and multi-level cyber security defense. FY 2021 Plans:	3.190	3.367	0.371	0.000	0.371

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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Continue effective secure operations enabled via data fusion frameworks and prototypes. FY 2022 Base Plans: Continue effective secure operations enabled via data fusion frameworks and prototypes. FY 2022 OCO Plans: N/A FY 2021 to FY 2022 Increase/Decrease Statement: Development varies by year.					
Title: Modeling & Simulation Innovation Description: Select student research/faculty-assisted projects (e.g., Joint Transportation Asset Scheduling Kit, Next Generation Cargo Capability, Applying Post Modern Portfolio Theory to Mitigate Risk in International Shipping, Optimal CH-47/C-130 Workload Balance, Remotely Piloted Aircraft Performing Airdrop Mission). FY 2021 Plans: Collaboration partnership with AFIT for student research FY 2022 Base Plans: Collaboration partnership with AFIT for student research FY 2021 to FY 2022 Increase/Decrease Statement: Modeling & Simulation varies by year.	0.125	0.125	0.125	-	0.125
Title: Infrastructure Information Confidence Model Description: Inform decision makers of the quality of primary and alternate data sources they are using to make decisions FY 2021 Plans: Continue development of information collaboration process that analyzes and provides a confidence assessment of structured and unstructured data FY 2022 Base Plans: N/A FY 2021 to FY 2022 Increase/Decrease Statement:	1.137	0.697	0.000	-	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Air Force				Date: May 2021	
Appropriation/Budget Activity 3600 / 4		R-1 Program Element (Number/Name) PE 0604776F / <i>Deployment & Distribution Enterprise R&D</i>		Project (Number/Name) 640212 / <i>C2/OPTIMIZATION/MODELING AND SIMULATION</i>	
B. Accomplishments/Planned Programs (\$ in Millions)					
	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Project ends in FY21					
Title: Aerial Delivery and Autonomous Deployment of Unmanned Vehicles Description: Develop ability to deliver unmanned systems from existing airdrop systems FY 2021 Plans: FY22 New Start FY 2022 Base Plans: Aerial Delivery and Autonomous Deployment of Unmanned Vehicles FY 2021 to FY 2022 Increase/Decrease Statement: FY22 New Start	-	0.000	1.392	-	1.392
Title: Program Execution Description: Provide technical assistance and program management support to the USTRANSCOM RDT&E Program. FY 2021 Plans: TRL 4-6: Program support to explore technology solutions to capability gaps identified through Joint Concept Development documents, the Joint capabilities Integration and Development System process, Joint Experimentation, etc, to increase the responsiveness, efficiency and effectiveness of the Joint Deployment and Distribution Enterprise. FY 2022 Base Plans: TRL 4-6: Program support to explore technology solutions to capability gaps identified through Joint Concept Development documents, the Joint capabilities Integration and Development System process, Joint Experimentation, etc, to increase the responsiveness, efficiency and effectiveness of the Joint Deployment and Distribution Enterprise. FY 2021 to FY 2022 Increase/Decrease Statement: Technical assistance varies by year.	1.006	0.976	1.138	-	1.138
Title: Scheduling Mobility Aircrews for Readiness and Transportation Description: Develop prototype software for advanced squadron scheduling, collaboration, and predictive modeling.	1.950	0.600	0.600	-	0.600

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Air Force		Date: May 2021
Appropriation/Budget Activity 3600 / 4	R-1 Program Element (Number/Name) PE 0604776F / <i>Deployment & Distribution Enterprise R&D</i>	Project (Number/Name) 640212 / <i>C2/OPTIMIZATION/MODELING AND SIMULATION</i>

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

Remarks

D. Acquisition Strategy

Requirements for joint deployment and distribution enterprise technology enhancements are annually identified, validated and prioritized by the Joint Deployment & Distribution Enterprise (JDDE) community. Pursuit of the development of new/improved capabilities to meet these requirements is managed by the United States Transportation Command (USTRANSCOM). Prototype products, once evaluated by the users, are spirally transitioned by the operational community.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Air Force **Date:** May 2021

Appropriation/Budget Activity 3600 / 4	R-1 Program Element (Number/Name) PE 0604776F / <i>Deployment & Distribution Enterprise R&D</i>	Project (Number/Name) 640212 / <i>C2/OPTIMIZATION/MODELING AND SIMULATION</i>
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Support (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 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	Award Date	Cost To Complete	Total Cost	Target Value of Contract
Integrated Logistics Support	Various	Various : Belleville, IL	-	14.767	Nov 2019	14.726	Nov 2020	24.958	Nov 2021	-		24.958		-	-	-
Subtotal			-	14.767		14.726		24.958		-		24.958		-	-	N/A

Remarks
Funds will be realigned within PE.

	Prior Years	FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	14.767		14.726		24.958		-		24.958	-	-	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Air Force		Date: May 2021
Appropriation/Budget Activity 3600 / 4	R-1 Program Element (Number/Name) PE 0604776F / <i>Deployment & Distribution Enterprise R&D</i>	Project (Number/Name) 640212 / <i>C2/OPTIMIZATION/MODELING AND SIMULATION</i>

	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

<i>Deployment and Distribution</i>																												
Integrated Logistics Support																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Air Force		Date: May 2021
Appropriation/Budget Activity 3600 / 4	R-1 Program Element (Number/Name) PE 0604776F / <i>Deployment & Distribution Enterprise R&D</i>	Project (Number/Name) 640212 / <i>C2/OPTIMIZATION/MODELING AND SIMULATION</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Deployment and Distribution</i>				
Integrated Logistics Support	1	2020	4	2026

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

Appropriation/Budget Activity 3600 / 4	R-1 Program Element (Number/Name) PE 0604776F / <i>Deployment & Distribution Enterprise R&D</i>	Project (Number/Name) 640213 / <i>CYBER</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
640213: <i>CYBER</i>	-	5.358	5.429	5.461	0.000	5.461	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

This program provides for the development, integration, demonstration and detailed assessment of capabilities to ensure USTRANSCOM mission assurance is in a persuasive/dynamic cyber environment. USTRANSCOM requires the procedures/technologies to improve cyber surveillance and control of networks across multiple domains and the ability to continue critical network operations in contested unclassified and classified network environments. The Command also needs the ability to differentiate between valid/unauthorized users and determine/quantify the trustworthiness of hardware/software systems. Additionally USTRANSCOM must have the ability to rapidly analyze & correlate data regarding malicious activities, select/evoke real-time defense actuators, perform automated reasoning capabilities that address data quality issues, and the ability to rapidly return to a known/safe operating state.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
<p>Title: Oversight</p> <p>Description: Enable continuous tracking of adversary cyber groups and campaigns targeting USTRANSCOM and USINDOPACOM enterprise and their partners</p> <p>FY 2022 Base Plans: Provide anomaly detection and predictive analysis to dynamically assess threats, attack vectors and adversary intent</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: FY22 New Start</p>	-	-	1.330	-	1.330
<p>Title: Cyber Mission Assurance Technologies</p> <p>Description: Near real-time understanding of the operational impact of cyber risks, threats, and disruptions.</p> <p>FY 2022 Base Plans: Develop integrated analysis/decision processes involving complex ops/cyber data by selecting pre-approved actions and coordinating stakeholders in the fight-through of cyber risks/disruptions to executing missions and Cyber Critical Asset Lists</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement:</p>	-	-	1.177	-	1.177

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Air Force	Date: May 2021
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Appropriation/Budget Activity 3600 / 4	R-1 Program Element (Number/Name) PE 0604776F / <i>Deployment & Distribution Enterprise R&D</i>	Project (Number/Name) 640213 / <i>CYBER</i>
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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
FY22 New Start					
Title: Lincoln Labs	5.358	5.429	2.954	-	2.954
Description: Partnership with MIT-LL to research efforts to improve enterprise operational architecture supporting high-end analytics, integrated information technology/data structures, understanding of cloud capabilities and multi-level cyber security defense.					
FY 2021 Plans: Continue increased awareness and ability to respond to cyber events					
FY 2022 Base Plans: Continue increased awareness and ability to respond to cyber events					
FY 2021 to FY 2022 Increase/Decrease Statement: Project varies by year.					
Accomplishments/Planned Programs Subtotals	5.358	5.429	5.461	-	5.461

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

Remarks

D. Acquisition Strategy
Requirements for joint deployment and distribution enterprise technology enhancements are annually identified, validated and prioritized by the Joint Deployment & Distribution Enterprise (JDDE) community. Pursuit of the development of new/improved capabilities to meet these requirements is managed by the United States Transportation Command (USTRANSCOM). Prototype products, once evaluated by the users, are spirally transitioned by the operational community.

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Air Force		Date: May 2021
Appropriation/Budget Activity 3600 / 4	R-1 Program Element (Number/Name) PE 0604776F / <i>Deployment & Distribution Enterprise R&D</i>	Project (Number/Name) 640213 / <i>CYBER</i>

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

<i>Deployment and Distribution</i>	
Integrated Logistics Support	

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Air Force		Date: May 2021
Appropriation/Budget Activity 3600 / 4	R-1 Program Element (Number/Name) PE 0604776F / <i>Deployment & Distribution Enterprise R&D</i>	Project (Number/Name) 640213 / <i>CYBER</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Deployment and Distribution</i>				
Integrated Logistics Support	1	2020	4	2025

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

Appropriation/Budget Activity 3600 / 4	R-1 Program Element (Number/Name) PE 0604776F / <i>Deployment & Distribution Enterprise R&D</i>	Project (Number/Name) 640215 / <i>Transportation Management Service</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
640215: <i>Transportation Management Service</i>	-	0.000	0.000	0.200	0.000	0.200	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

This program, BA 4, PE 0604776F, project , Transportation Financial Product Development, is a new start.

Joint Transportation Management Systems (JTMS) added to support FY22 development.

A. Mission Description and Budget Item Justification

JTMS will develop and configure a commercial-off-the-shelf (COTS) transportation/financial management product to deliver DoD enterprise-wide end-to-end transportation and transportation-related financial business process reform.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Title: Transportation Financial Product Development	0.000	0.000	0.200	-	0.200
Description: JTMS will develop and configure a commercial-off-the-shelf (COTS) transportation/financial management product to deliver DoD enterprise-wide end-to-end transportation and transportation-related financial business process reform.					
FY 2021 Plans: FY22 New Start					
FY 2022 Base Plans: Develop a transportation-related financial business process reform.					
FY 2021 to FY 2022 Increase/Decrease Statement: FY22 New Start					
Accomplishments/Planned Programs Subtotals	0.000	0.000	0.200	-	0.200

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

N/A

Remarks

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Air Force		Date: May 2021
Appropriation/Budget Activity 3600 / 4	R-1 Program Element (Number/Name) PE 0604776F / <i>Deployment & Distribution Enterprise R&D</i>	Project (Number/Name) 640215 / <i>Transportation Management Service</i>

D. Acquisition Strategy

Reforms the Defense Transportation System (DTS) by integrating financial and transportation transactions at the transactional level to effectively manage resources through a transportation requirement's plan to pay lifecycle. Program will improve resource management and budgeting accuracy, maximize buying power, strengthen financial management decision-making, and improve the Department's effort to achieve auditability.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Air Force **Date:** May 2021

Appropriation/Budget Activity 3600 / 4	R-1 Program Element (Number/Name) PE 0604776F / <i>Deployment & Distribution Enterprise R&D</i>	Project (Number/Name) 640215 / <i>Transportation Management Service</i>
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Support (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 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			
Integrated Logistics Support	Various	Belleville, IL : IL	-	-		-		0.200	Nov 2021	-		0.200	-	-	-
Subtotal			-	-		-		0.200		-		0.200	-	-	N/A
Project Cost Totals			-	-		0.000		0.200		-		0.200	-	-	N/A

Remarks
DoD enterprise end-to-end transportation and transportation-related financial business process reform.

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Air Force		Date: May 2021
Appropriation/Budget Activity 3600 / 4	R-1 Program Element (Number/Name) PE 0604776F / <i>Deployment & Distribution Enterprise R&D</i>	Project (Number/Name) 640215 / <i>Transportation Management Service</i>

	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

<i>Integrated Logistics Support</i>	
Develop Transportation Products and Processes	

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Air Force		Date: May 2021
Appropriation/Budget Activity 3600 / 4	R-1 Program Element (Number/Name) PE 0604776F / <i>Deployment & Distribution Enterprise R&D</i>	Project (Number/Name) 640215 / <i>Transportation Management Service</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Integrated Logistics Support</i>				
Develop Transportation Products and Processes	1	2022	4	2026

Note

DoD enterprise end-to-end transportation and transportation-related financial business process reform.