

# Lead Forward

## Mobility Air Force Command Nodes for Complex Operations

MICHAEL J. LOSTUMBO, JEFFREY S. BROWN, STEPHEN W. OLIVER, JR.

To access the full report, visit [www.rand.org/t/RRR1677-1](http://www.rand.org/t/RRR1677-1)



### ISSUE

United States Air Force (USAF) forces operating in forward areas must have command and control (C2) capabilities designed to withstand and cope with attacks on U.S. capabilities and to effectively adapt to a rapidly changing battle space. They must address the physical and cyber vulnerabilities of command nodes and networks. And they must be designed to retain effective C2 as both the supply of available forces and the mission prioritization changes. These issues challenge current command constructs even with all nodes and links fully functional. The USAF is developing a new force generation model to present defined forces, each of which will cycle through four stages of readiness over a two-year period that culminates in trained and ready units available for joint tasking. Defined forces will include C2 force elements (FEs), which are envisioned to be trained in preparation for the demands of future high-end operations.

Air Mobility Command (AMC), the USAF's lead command for the Mobility Air Force (MAF), is considering how to structure, train, and present its forces to prepare to operate in environments that are more complex than in previous conflicts. In a contested environment, MAF C2 structures need to consider the survivability and effectiveness of their own forces, while also anticipating how the MAF will support operations of the combat air force (CAF), primarily the fighter and bomber aircraft of the USAF, as well as the joint and coalition forces that also rely on MAF capabilities. A further complication is that some MAF forces will remain under AMC's operational control, and some MAF forces will be placed under regional commands. AMC asked RAND to

- identify the demands the new USAF agility concepts will place on expeditionary wings
- develop alternative wing C2 constructs for expeditionary MAF forces, some potentially disaggregated, in forward areas under threat of missile attack
- provide a qualitative assessment of the alternative constructs.



### APPROACH

In this report we characterize the changing demands driving AMC redesign of C2 elements. Taking into account both the USAF operating concept and the adversary challenges, we analyzed how future commanders' responsibilities and challenges might differ from those that were faced in recent conflicts in Iraq and Afghanistan. The report maps the implications of these changing demands on C2 FEs to inform the design and training of these elements. We then develop options to scope future MAF C2 capabilities. These options are assessed qualitatively, and the advantages and disadvantages of each option are discussed in the report.

## KEY FINDINGS AND RECOMMENDATIONS

Findings	Recommendations
<p>The MAF can add to the resilience of theater postures if it can increase the level of dispersion of the force and take advantage of civilian airfields and other locations not available to the CAF.</p>	<p>The MAF should develop a wing-level capability for C2 of independent MAF forces operating from multiple locations to prepare for future high-end fights.</p>
<p>A modular approach for MAF C2 FEs provides the most flexibility, given the wide scope of the global operations that MAF forces must perform.</p>	<p>The MAF should develop a modular approach to C2 FE.</p>
<p>Airpower should be centrally controlled at the highest level feasible. MAF units will be required to operate in situations where they cannot communicate with higher headquarters. This creates a demand for C2 FEs to be prepared to assume limited functions of higher headquarters under conditions-based authorities (CBAs).</p>	<ul style="list-style-type: none"><li>• MAF C2 FEs should be prepared to assume limited operational planning functions of higher headquarters temporarily under CBAs.</li><li>• MAF C2 FEs should be organized, trained, and equipped to reflect new demands on commanders in areas such as operational planning, logistics, operational deception, and recovery.</li><li>• Communications will be contested and are a fundamental part of C2, so the MAF should consider whether the communications capabilities of the command element are suited to future operating environments.</li></ul>
<p>The potential for attacks on AMC Global Air Mobility Support System (GAMSS) nodes forces new consideration of the GAMSS C2 footprint and authorities required for those nodes. They need to be able to redirect flights transiting GAMSS locations to respond to changing conditions and adversary attacks. In addition, GAMSS nodes need to be able to coordinate with intratheater airlift and joint logistics forces in order to link GAMSS-provided cargo with theater logistics capabilities.</p>	<p>AMC should work with the Joint Staff and regional commands to prepare for attacks on aerial ports of debarkation (APODs) and develop appropriate authorities and tactics, techniques, and procedures (TTPs) to allow the GAMSS nodes the flexibility to function in resilient ways and link with joint logistics.</p>
<p>Given the dynamic nature of future operations envisioned, MAF units and MAF aircrews will likely beddown at, employ from, or transit a wide range of adaptive basing options (see Chapter 2) led by commanders and C2 teams from multiple major commands (MAJCOMs). Therefore, it is critical that operating procedures be standardized USAF-wide for adaptive operations in order to maximize both force survivability and mission effectiveness.</p>	<p>AMC should work with other MAJCOMs to develop TTPs for C2 FEs operating in future complex environments. More broadly, the USAF should consider mechanisms to ensure integration of agility concepts and training across MAJCOMs.</p>



### PROJECT AIR FORCE

RAND Project AIR FORCE (PAF), a division of the RAND Corporation, is the Department of the Air Force's (DAF's) federally funded research and development center for studies and analyses, supporting both the United States Air Force and the United States Space Force. PAF provides DAF with independent analyses of policy alternatives affecting the development, employment, combat readiness, and support of current and future air, space, and cyber forces. For more information, visit PAF's website at [www.rand.org/paf](http://www.rand.org/paf).