
PERSPECTIVE

Supply Chain Visibility: United States Air Force Adapts To War In Afghanistan And Learns Logistics Lessons

By

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[The following article is a reprint from the *Armed Forces Journal International*, April 2002. We would like to thank the *Journal* for reprint permission.]

A logistical system designed around large, permanent bases and designed to contain the Soviet Union was able to adapt to the challenge of the war on terrorism in Afghanistan through some fortuitous planning decisions in previous years and hard work, United States Air Force (USAF) officials said. Decisions made in recent years to shift the Service to a more expeditionary structure and to emphasize asset tracking paid dividends when the time came to build a military presence in a section of the world where the U.S. previously lacked a military foundation. The Defense Department had to create a plan to support Operation Enduring Freedom as the war on terrorism developed, but the Air Force made the difficult task look easy despite rushed time lines, according to the service's top logistics officer.

The Air Force was in a difficult position when combat operations began last fall. Afghanistan's ruling Taliban and al Qaeda terrorist targets were far from the United States' permanent forward bases, such as those in Saudi Arabia and on the island of Diego Garcia in the Indian Ocean, so new operating locations had to be established in the theater essentially from scratch. But prior to September 11, 2001, Afghanistan had not been on most planners' minds as a likely place for the U.S. to go to war.

"We made it up for Afghanistan as we went along," noted Lt. Gen. Michael Zettler, USAF's Deputy Chief of Staff for Installations and Logistics (IL). "Every one of those missions was an opportunity for failure," he said, because "everything is needed" at a base in that region of the world.

Establishing an operating location from a bare base requires not just aircraft and personnel, but the full spectrum of equipment. Water, tents, fuel, and construction equipment are among the many things brought in and put to use before the Air Force could begin attacking targets from new locations.

Despite the challenges associated with reaching Afghanistan's corner of the world, the Air Force was able to begin flying combat missions out of new bases in the region in less than two weeks, assuming a minimal infrastructure was already in place at those bases, he said. "I am sure there are some things we could have done a little better [or] sooner, but in the grand scheme, with no deliberate planning" before September 11, 2001, and "no war plan for this area of the world," the Air Force was able to respond quickly, Zettler said. "People in the field make this look easier

than it really was. I am sure one day there will be thousands of vignettes told” about extreme measures and improvisation needed to make Enduring Freedom possible, he said. Officials were forced to be innovative, to meet taskings “on a very accelerated time line, often before expected support was in place,” he added.

An Old Lesson: Visibility

After Operation Allied Force in Kosovo revealed lingering shortcomings in the Air Force’s asset-tracking capabilities, the service began making changes to improve visibility into the supply chain. Improvements were needed so that officials could readily determine the location of equipment or parts in the logistics pipeline. Reforms led to greatly improved logistical support for Operation Enduring Freedom, Air Force officials said, and have turned asset visibility into a force multiplier in the war on terrorism.

Both technology and management emphasis have improved dramatically since Allied Force in 1999, USAF officials said. Improved Air Force and DoD tracking systems feeding into the Global Transportation Network enable personnel to know what materiel is en route, where it is at any given moment, and when it will arrive a vast improvement over “the bad old days,” one officer remarked.

Previously, a lack of visibility into the system led to inefficient inventories, parts shortages, and repeated ordering of the same parts, clogging the supply chain. Officials often could not determine if parts were on their way or when they would arrive, or even if they were already at their final locations but not yet checked in. This inefficient system contributed to its own shortcomings when additional supplies were forced through the supply chain.

Improved visibility into the supply chain also allows bottlenecks to be bypassed, giving planners better options to get equipment to the field, such as shipping through commercial providers. The improved system has become a force multiplier at forward operating locations, because it creates efficiency in the field, Air Force officials said. Inventories can be kept at ideal levels, without the need to over-order or cannibalize parts from vehicles when replacements are due to arrive.

Improved technology had to come with a command emphasis, however. “We have to credit the UCOMs because the UCOMs put so much more emphasis on asset visibility over the past few years,” said Patty Kelly, deputy chief of IL’s Traffic Management Division. “They’ve drummed that into the folks who work for them,” she said. “We have had emphasis at the top, better training at the bottom, and improved systems,” Kelly added. In light of the previous situation and numerous ‘stovepiped’ systems being integrated, it is “almost a miracle” that the disparate systems feeding the Global Transportation Network were integrated with the improvements seen, she said.

The commander of U.S. Transportation Command (TRANSCOM) has made in-transit visibility a top priority, added Lt. Col. Gregory Wilson, the Traffic Management Division’s Cargo Team branch chief. To support the war on terrorism, TRANSCOM tasked USAF’s Air Mobility Command to send in-transit visibility teams to South Asia, with the mission of setting up advanced systems to track inventory. The improvements have been clear. According to Zettler, visibility into the supply chain is “better than ever before.” Asset visibility rates are as high as an eight on a scale of 10, he said, compared to a “five or six” during Allied Force. As recently as the Persian Gulf War, the Air Force was largely blind to what materiel was in the logistics pipeline, since visibility during that conflict only rated a three, according to Zettler.

A New Lesson: Weapons Forward

A temporary shortage of the weapons the Air Force's fighters and bombers needed for the war in Afghanistan brought to light a need to increase forward-deployed stockpiles. The Defense Department draws upon pre-positioned stocks of munitions for battles in remote parts of the globe, but Enduring Freedom showed that greater stocks are needed. At one point last fall, Air Force units attacking targets in Afghanistan from Diego Garcia nearly ran out of munitions before additional weapons arrived via airlift, Zettler said. "It took Air Mobility Command dozens of sorties to fly munitions out to Diego Garcia," he said. The long-range bomber units on Diego Garcia "never ran out" of munitions, he said. "They got close once, but they never ran out." While this airlift mission was an expensive and labor-intensive task, the personnel responding to the urgent demand proved to be up to the job, he added. "It is really remarkable how [the Air Force] moved munitions by air," Zettler said. Airlifting bombs is not the best way to get weapons to the field, however, so TRANSCOM and Air Mobility Command moved to immediately obtain an additional ship to store and transport massive amounts of munitions, Zettler said. Nonetheless, "I would have liked . . . more pre-positioned precision munitions forward, because that is what we were shipping by air," he said. "We set up Diego Garcia a few years ago as a bomber [forward operating location], but we were still proceeding into what I would call a full-up realm," he added. To eliminate this concern in the future, the Air Force and TRANSCOM are increasing the number and efficiency of ships that hold weapons. In addition to the new munitions ship brought into use immediately when bombs began to run low, DoD plans to buy a new pre-positioned ship to serve as a floating precision munition warehouse. Now funded, the ship will be available this fall, according to the Air Force. A new ship should make re-supplying forward units faster and easier, because a single pre-positioned ship can carry as many weapons as up to 400 C-130 aircraft loads. "You always like to have a little more stuff out there," Zettler noted.

The munitions ships should also be spread among new home ports to distribute them better, officials said. The study that recommended that the Air Force procure an additional munitions ship also said that the ships should be spaced to give flexibility to respond to all manner of contingencies worldwide. One of the four pre-positioned ships will likely be moved to the western Pacific region, nearer potential contingencies involving China or North Korea.

Commercial Benefits

One solution that the Air Force is making greater use of, but which still needs improvement, is the use of commercial carriers to transport military equipment. Commercial shippers can deliver equipment overnight to "anywhere they fly," Lt. Col. Wilson noted. This makes external shipping an especially viable option to alleviate bottlenecks generated because DoD has a finite amount of airlift available for all missions. Commercial shipping methods were often touted by former DoD acquisition chief Dr. Jacques Gansler. Uncertain threats require the ability to rapidly deploy and build up military inventories, Gansler said in an interview before September 11, 2001. Therefore, the old logistical system that gradually ramped up a presence over several months needs improvement, he said. "Lots of our airplanes are standing on the runway waiting for one part" because DoD's logistics system has a needed part working its way through the system, he said, adding, "It takes twenty-two days to get there. You 'FedEx' it there, you get it in 24 hours instead. You then have fewer things in the pipeline, but you also have higher readiness." Commercial carriers are not a cure-all, however. "They don't use our systems" to track shipments, Kelly noted, which can create a "visibility gap" if a FedEx package's contents, for example, are not linked into DoD tracking systems. And commercial shipping can also be expensive compared to "organic" military airlift options. But officials say the private-sector alternative offers rapid delivery that must be considered when evaluating the best way to get equipment to the field.

Expeditionary Developments

The Air Force's expeditionary concept was "taken to a very high level of fidelity, as opposed to perfected during this operation," Zettler said. "We're not perfect; we'll never be perfect. But we fully understand what it takes to go into a bare base and operate any kind of forces in those bare bases."

Despite the enormous challenge of getting to Afghanistan, the Air Force "covered every target line" assigned, he said. The result is that the service's expeditionary planning structure is now at a higher level of "fidelity." Leaders can "very easily sit down" and lay out a plan to "take a bare base and put F-16s in there," Zettler said. The buildup for Operation Enduring Freedom took place while a shift to wartime footing meant the Service's readiness was increasing. Mission-capable rates, the percentage of aircraft able to perform their primary missions at any given time, are higher than they have been "in the last few years," Zettler said. The mission-capable rates of bombers and intelligence, surveillance and reconnaissance aircraft are all up, he said, yet the time it takes to get materiel to the field has declined.

There was no single factor that led to the successful build up, officials stressed. Rapid movement of equipment and establishment of bases were possible through a wide range of efforts, including Air Force Reserve and Air National Guard support, contractor assistance, and the Air Force's new expeditionary structure, said Colonel Connie Morrow, chief of IL's Strategy, Concepts, and Doctrine branch. Enduring Freedom proved that the Air Force's Expeditionary Aerospace Force concept "is not a Cold War construct," she said. Officials noted that scheduled Aerospace Expeditionary Force (AEF) rotational unit deployments never broke down during the operation. Even though many officials had to remain deployed longer than planned or were "spun up" for deployment early, the system of having rotating AEFs respond to contingencies on a scheduled basis held up overall, Zettler said.

Zettler still sees improvements in the future. In a nod to the massive size of DoD's logistical system, he noted that support requirements are largely "force structure-dependent" and that the system can be reduced if it needs to do less. The AEFs are "light, lean and lethal, but not as light, lean, and lethal as we'd like them to be," he said. "We'd like to be able to do it with a third of the people, but that's what we've got to go with because of our weapons systems. If you look at airplanes like the F-22 or the Joint Strike Fighter coming down the road, they're not going to require as many people" to deploy and support, he said, which will free up personnel and resources to apply to other missions.