In-Transit Visibility Systems for an Expeditionary Force

The 53rd Transportation Battalion (Movement Control) provides lessons learned from operating in-transit visibility systems in support of Operation United Assistance.

■ By Capt. Paul T. Crowley

In September 2014, the outbreak of Ebola virus disease in West Africa overwhelmed the region's infrastructure and medical emergency response capabilities. In response, the president of the United States ordered a large-scale humanitarian response headed by the U.S. Agency for International Development with the support of the armed forces.

The Army was tasked to provide transportation, medical, and engineering support for the response, called Operation United Assistance (OUA). As a part of that response, the 53rd Transportation Battalion (Movement Control) (MCB) deployed with just three weeks' notice.

Planning

An MCB usually operates as the mission command element for four to six movement control teams (MCTs) within a given region. For this mission, however, the MCB had only one MCT at the beginning of operations and received an additional MCT two months into the deployment.

During the planning stages, assumptions were made about what equipment was needed to provide effective in-transit visibility (ITV) for cargo movements within the joint operations area for OUA.

To provide ITV capabilities as separate nodes, the MCB procured systems that MCTs normally operated and maintained. The MCB identified the need for four portable deployment kits (PDKs) and six Transportation Coordinators' Automated Information for Movements System II (TC–AIMS II) computers with three Intermec PM4i printers.

Network Connectivity Shortfalls

The MCB brought on the deployment four PDKs that had reached the end of their manufacturing life cycle in 2010. (The MCB was unable to obtain the funds to purchase newer equipment.) The systems had limited satellite coverage and could not maintain a connection with the server. Repair parts were unavailable to correct these issues because the manufacturer had stopped producing the older model replacement parts.

It became apparent that this posed a significant limitation for expeditionary forces in an austere and remote environment. PDKs and Movement Tracking Systems operate on the same network of satellites as the Battle Command Sustainment Support System (BCS3). Without proper satellite coverage, these systems are inoperable, causing impaired communication, ITV, visibility for units on ground, and oversight from higher echelons.

Partnering for ITV

Units can overcome these obstacles. PDKs and TC–AIMS II do keep data (.tiv files) collected in folders. Once systems are in an area that provides network access through a very small aperture terminal, these files can be uploaded to the national server. While this does not provide commanders with an immediate picture, all information is captured and available to customer units.

When presented with the challenge of system failures in theater, the MCB developed procedures to ensure that ITV was captured and maintained for all cargo entering Liberia. The MCB coordinated with the Air Force to combine data from the Single Mobility System and the Air Force's Global Air Transportation Execution System to forecast equipment coming into theater. This enabled the MCB and MCTs to provide customers with advance notification.

Transportation control numbers were manually captured on the flight line and recorded in a tracker along with each item's weight, cargo description, point-of-contact information, class of supply, and Department of Defense activity address code.

This operational flexibility ensured that the overall visibility within Liberia was largely unaffected by the lack of standard Army management information system equipment.

Filling the Gaps

Higher-level visibility and delivery confirmation of goods from the shipper were not available without communicating by email or telephone. The MCB and MCT used local cell phone service to coordinate with the destination and confirm the delivery of goods.

Using host-nation trucking assets to deliver goods to locations without a military presence further complicated ITV because the trucks did

not use radio frequency identification technology.

In order to close the loop and ensure maximum visibility of the cargo at its final destination, the MCT had to confirm the delivery with both the driver and the destination's point of contact.

To aid in the confirmation process, load cards were developed to annotate the cargo being transported. The cargo's description, transportation control number, and relevant information, including a load plan sketch, helped to alleviate confusion between local-national drivers and the delivery recipients about the cargo.

Lessons Learned

The experience of the 53rd MCB demonstrates that transportation units that may deploy at a moment's notice should have the most up-to-date equipment.

Many Military Surface Deployment and Distribution Command (SDDC) units, such as rapid port opening elements (RPOEs), already have modernized equipment that units can use if coordinated for in advance.

Theater-provided equipment. Sustainment brigades, combat sustainment support battalions, and MCBs need the same equipment to maintain ITV. One way to ensure that capability is to have the RPOEs leave their standard Army management information system equipment as theater-provided equipment for the replacing unit.

Once the operation is complete, the unit on the ground should redeploy the equipment to its home station, and the RPOE should procure new equipment through the reset process. This would reestablish the cycle for the next deployment.

Key equipment that should be transferred includes an early entry deployment support kit and a PDK for each major transportation node.

Maintenance and operations. Once established and registered with the ITV server, systems should not be removed from operation. Incoming units must train on the maintenance and operations of the systems during the relief in place and transfer of authority process. This ensures that units receive new, mission-essential equipment and are capable of maintaining ITV throughout the theater.

Systems training. Another lesson learned from OUA is that each unit with a mission-essential task that incorporates ITV must have proper systems training. This will provide a smoother transition once in country.

SDDC has a contract with SAVI that provides instructors for units' home-station training. The instructors brief capabilities and conduct hands-on training with the new equipment. Alternatively, SDDC could conduct this training with the enduring forces at home station as a quarterly training requirement.

Unit movement expertise. Transportation supervisors also require additional hands-on experience operating each type of system. Each installation has an ITV network already established that contractors maintain. Instead of contractors, transportation supervisors should maintain the ITV network in order to train for deployment.

The need for this training became apparent while fielding TC–AIMS II during redeployment. All the systems were reimaged prior to arriving in Liberia and were capable of operating alone or through a very small-aperture terminal, but there were not enough qualified operators.

Most units did not bring trained and certified unit movement officers, and the transportation supervisors were relying on knowledge from a two-week introductory course that was part of their advanced individual training.

While at home-station, most units use their installation transportation office (ITO) to process their organizational equipment lists and unit deployment lists prior to the deployment. Without an ITO as a resource, the redeployment from OUA became extremely inefficient.

Because of the shortage of operators, only two out of the six computers brought to OUA were used. The Army as a whole lacks personnel who have subject-matter expertise in how to correctly conduct unit moves without the support of civilian ITOs.

Despite multiple challenges, the 53rd MCB overcame constraints to accomplish all mission requirements in support of OUA. The MCB processed over 390 transportation movement releases for host-nation trucking movements and maintained visibility of more than 4,000 tons of inbound air cargo.

The MCB was also largely responsible for maintaining and constructing the unit deployment lists for all redeploying equipment. This included one sea movement and one strategic air movement for redeploying equipment from Senegal, two sea movements from Liberia, and all air movements of redeploying equipment out of Liberia.

Over 5,000 military shipping labels and transportation control and movement documents were printed, and more than 3,000 radio-frequency identification tags were created. These achievements contributed to the success of the U.S. Agency for International Development in its mission to control the outbreak of Ebola.

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