



Commandant's NOTE

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A PERSPECTIVE ON MILITARY OPERATIONS ON URBAN TERRAIN

As the United States Army prepares to execute a wide range of worldwide missions, our readiness to conduct military operations on urban terrain (MOUT) must remain a high priority. In this Note, I want to review the historical significance of MOUT, and then tell you how we will prepare the infantry force to win the future MOUT fight.

World War II holds numerous examples of the difficulty of clearing an urban area held by a determined defender; during the war, 40 percent of the battles in the European Theater took place in built-up areas. In France, in Italy, across Germany, and in the Soviet Union, towns and cities often had to be secured building by building, at high cost to defender and attacker alike. The mention of Aachen and Stalingrad evokes memories of bitter, protracted close-quarters combat. In the Pacific Theater, the liberation of Manila was accomplished at a staggering cost in American, Filipino, and Japanese lives and materiel, but six years later—during the Korean War—the U.S. Army was able to apply some of the lessons learned when it was called upon to recapture Korean towns and cities.

Our MOUT expertise grew apace with weapons technology, and when North Vietnamese Army (NVA) units seized South Vietnamese towns and cities during the 1968 Tet Offensive, units of the U.S. Army, U.S. Marine Corps, and Army of the Republic of Vietnam (ARVN) were able to regain control of those built-up areas in spite of determined enemy resistance. In the battle for Hue, for example, U.S. Army and Marine units, along with Vietnamese units such as the 1st ARVN Division drew upon the latest communications, mobility, and firepower technology to conduct successful amphibious, airmobile, and ground operations against the NVA. Then, as now, success in fighting in built-up areas was based upon a combination of powerful combined arms units, doctrinally sound small unit tactics, practical experience and the application of all available technology.

Due in large part to the intense urbanization that has taken place since the 1940's, MOUT operations have continued to play a key role up to the present: In Grenada and Panama, Marines and U.S. Army soldiers again found themselves committed to the MOUT battle, as did Coalition forces during Desert Storm, in the Saudi Arabian coastal town of Khafji, and later in the liberation of Kuwait City. Still more recently, in October 1993 infantrymen in Mogadishu,

Somalia, found themselves decisively engaged with a stubborn enemy on his own territory.

Recent MOUT experience is not limited to the U.S. Army, however. The article on page 21 of this issue describes the bitter lessons learned by Russian soldiers deployed in Grozny, the capitol of Chechnya, during January 1995. Their experience underlines the importance of thorough planning, preparation, and training for MOUT operations, as well as the consequences of unpreparedness. Today, the deployment of U.S. forces to the Balkans highlights the need for further MOUT training, given the historical instability of the region and the familiarity of indigenous forces with the cities and towns in the areas of operations.

The task of dislodging a determined enemy from a built-up area is one of the most resource-intensive challenges that a commander and his unit can face, and we must be prepared to meet it with minimal friendly casualties and as little collateral damage as possible to the host nation and its civilians. Given the diversity of potential threats to our Nation's interests, urban terrain such as we see in the Balkans will be the most likely battlefield of the 21st century, and our adversaries understand that in a MOUT battle the traditional American advantages of an extensive mechanized force, massive supporting ground and air firepower, and overwhelming logistical superiority are negated to varying degrees. It is only in the concrete canyons and maze of cul-de-sacs of the urban jungle that an adversary can have any hope of meeting American forces on anything resembling an even footing.

The MOUT concept is certainly not a new one, but today we are employing a new means of identifying and developing those technologies that can be rapidly put into the hands of the soldiers and Marines who may be called upon to execute MOUT missions. The vehicle for this effort will be an advanced concept technology demonstration (ACTD). This will be a significant effort calling for joint participation between the Army and Marine Corps that will allow the application of emerging technologies to a number of specific MOUT-related issues.

Our soldiers and Marines deserve the best training and equipment we can field as they prepare to execute an array of missions—including MOUT—in support of our Nation's foreign policy. In order to ensure that they receive that preparation, we are examining the entire array of operations that MOUT can entail. We are con-

sidering the application of both lethal and non-lethal technology. We will train using a postulated threat based upon the adversarial mix our force is most likely to encounter, and then update it based upon the most current intelligence. In support of the MOUT ACTD, we are developing a MOUT testing facility; a test and analysis network; and a modeling, simulation, and instrumentation test bed to provide an ongoing evaluation of our efforts. The virtual and live linkage envisioned for the MOUT site will make both virtual and constructive MOUT simulation possible for the first time, enabling trainers and units to experience situations and responses as near to reality as possible.

In a MOUT environment, the three most pressing concerns are finding the enemy, isolating and destroying him, and protecting the friendly force. At the same time, the commander must consider all the possible effects of U.S. operations on noncombatants and the city infrastructure. Finding the enemy can be difficult under any conditions, but this difficulty increases significantly in a built-up area. Underground corridors and concealed passages, sound and light distortion, the enemy's knowledge of the terrain, and poor visibility will all hamper efforts to locate him. Other limiting factors can be an unfriendly or non-aligned populace, inadequate maps and photographs of the area of operations, the unfamiliarity of U.S. forces with the local language, and the limitations of conventional communications systems.

The Land Warrior system is the first integrated fighting system for the combat soldier to have a specialized MOUT capability. The technological capabilities of Land Warrior will improve the soldier's individual and collective performance in MOUT environments. Its MOUT operation benefits will include: a computer for sending and receiving messages, still-frame video capture to send pictures, map data, and situation awareness information to higher, and a thermal weapons sight that will allow the soldier to scan an area to detect and engage targets more accurately through limited visibility and obscurants. Through the use of the thermal weapons sight or the daylight camera, the system allows the soldier to see and engage targets around vehicles, buildings, and obstructions without exposing himself to fire. The soldier-to-soldier communications capability will allow squad members to maintain stealth and to communicate effectively from covered and concealed positions.

Another important tool to be evaluated in the MOUT ACTD will be a language translator communicator that will facilitate communication with the local populace and prisoners, and that will facilitate the control of population movements and the collection of human intelligence. A voice-actuated digital communications system will free the soldier's hands for the operation of his weapons and other equipment for hands-on requirements such as countersniper operations, obstacle breaching, climbing, and other use of accessories in built-up areas.

An enemy must be located before he can be effectively engaged, and a number of programs that make that possible are also well under way. Current robotic technology offers a number of prototype vehicles that have MOUT application. Whether the vehicle is tele-operated or fully autonomous, most vehicles—with a few exceptions—offer a similar "payload" or suite of sensors. These include TV imaging sensors, image intensifying sensors, and laser designation. Another group of vehicles that offer significant promise in MOUT are tele-operated engineer vehicles that can provide

obstacle and minefield breaching and clearing capabilities. Robotic platforms can offer other capabilities as well, such as advanced acoustics for sniper detection and sensors for NBC-agent detection.

The Combat Identification Dismounted Soldier System (CIDSS) is the first-generation soldier identification system. Its purpose is to reduce fratricide. The system does not replace current visual identification techniques, but rather enhances them to further reduce the probability of fratricide. CIDSS also offers several other benefits in a MOUT environment. The laser interrogator can be used for precision night vision goggle (NVG) assisted aiming, benefiting both friendly snipers and infantrymen. CIDSS will also greatly increase the chance of identifying fleeting targets in and around buildings and alleyways.

CIDSS technology can be integrated into smart weapons and munitions to control delivery and detonation in fast-paced and rapidly changing conditions in which the potential for fratricide is high. If CIDSS is equipped with a global positioning system, leaders will be able to direct subordinate units and synchronize their actions even in an environment with a limited field of view.

These measures will go a long way toward dissipating the fog of battle that has hampered the past conduct of MOUT operations, but further technological advances such as through-wall sensors, state-of-the-art acoustic sensors, and advanced forward looking infrared will represent a leap even beyond our present capabilities. These capabilities I have described thus far will enhance force protection even while they enable us to find the enemy. A number of further initiatives currently under way will also continue to improve force protection while enabling us to more effectively engage and destroy the enemy.

Improved MOUT sensors, state-of-the-art obscurants, enhanced protective obstacles and entanglements, and a close-in man-portable mine detector will enable our soldiers to better monitor the enemy's activities, while degrading his ability to monitor our own actions. They will also restrict or channel enemy movement and reduce the effectiveness of his mines and booby traps. Advanced hearing protection for U.S. personnel will preserve their hearing acuity so that they can continue to soldier after the MOUT mission is accomplished.

While these programs further the force protection aspects of our profession, devices and systems such as the enhanced rifle sight, a multipurpose bunker and wall defeating munition, and improved entrance and breaching tools will better enable us to take the fight to the enemy. The latest in countersniper systems and training will reduce the effectiveness of an adversary's sniping, while increasing our own proficiency in this key aspect of MOUT. We must improve our countersniper capabilities, technologically and conceptually. Finally, an array of enhanced non-lethal devices will facilitate the accomplishment of the MOUT mission without the enormous collateral damage to personnel and property that characterized combat in cities earlier in this century.

This then is our goal, to prepare our infantry to deploy, fight and win, and return home with minimal losses in soldiers and materiel. The MOUT fight represents the greatest challenge to the success of this mission, but we are drawing upon the lessons of history, the technological potential of our Nation, and the superb training base of our Army and Marine Corps to increase the combat capabilities and survivability of our deploying forces.