

## NEW EMPHASIS ON MOUT TRAINING

# It Takes a Village To Prepare for Urban Combat... And Fort Knox Is Getting One

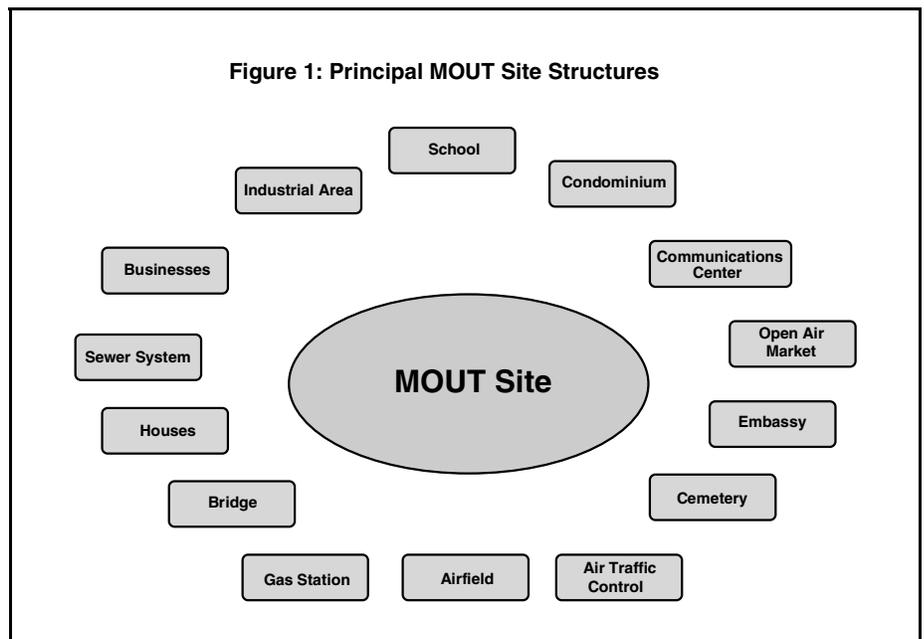
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For the future, Mounted Forces must be ready to operate in urban settings. Many soldiers put urban operations in the 'too hard' box. Instead, mounted soldiers must begin to think of fighting in urban terrain as another battlefield condition, like cold weather or NBC. Traditional Armor practices of either avoiding urban areas or destroying them by indirect fire or long range direct fires are no longer acceptable. To meet the challenges that urban areas pose, the Army must develop doctrine, training, organizations, materiel, and soldier-leaders. At Fort Knox, a facility is arising to fill these gaps. This new facility, a test bed for Force XXI, will integrate heavy weapons and mounted forces in urban operations. By doing so, the site will reveal shortfalls in new technologies, organizations, and tactics. Finally, it will provide an un-

equaled opportunity for joint training across the spectrum of conventional and special forces.

### The Urban Combat Problem

Operations from Somalia to Bosnia show that the U.S. Army must operate in urban settings. The Gulf War showed the effectiveness of armored forces in open terrain, but it did not represent either current or future military operations. Future battlefields will include city streets. Europe and Asia now have the highest densities of urban population. In 1983, an average American brigade sector in Germany included at least 25 villages and one town, and this number has since risen.<sup>1</sup> Data for Africa and Latin America shows rapid urbanization in these likely hot spots.<sup>2</sup> The increase in unconventional operations since the Berlin Wall fell underscores the need for MOUT capability. Actions in Panama City, Port-au-Prince, and Mogadishu proved criti-



cal to Operations Just Cause, Uphold Democracy, and Restore Hope. Ongoing stability operations in Bosnia involve the use of mounted forces in and around villages. Cities like Sarajevo are important symbols and house key force headquarters.

Foreign and American experience shows that failure to prepare for urban conditions carries a high human and political cost. MOUT readiness proved a critical factor in Israel's 1982 invasion of Lebanon. The Israeli Defense Force (IDF) overran much of Lebanon to drive out the Palestinian Liberation Organization (PLO). The PLO withdrew into the cities where the urban setting offset its lack of sophisticated weaponry and suited its decentralized tactical leadership. With its force structure and doctrine ill-equipped for urban fighting, the IDF found itself trapped in a dilemma. It could use artillery and air power to crush resistance in cities still populated with civilians, or it could use scarce infantry in slow and costly clearing operations. Initial Israeli use of blanket firepower brought international condemnation.

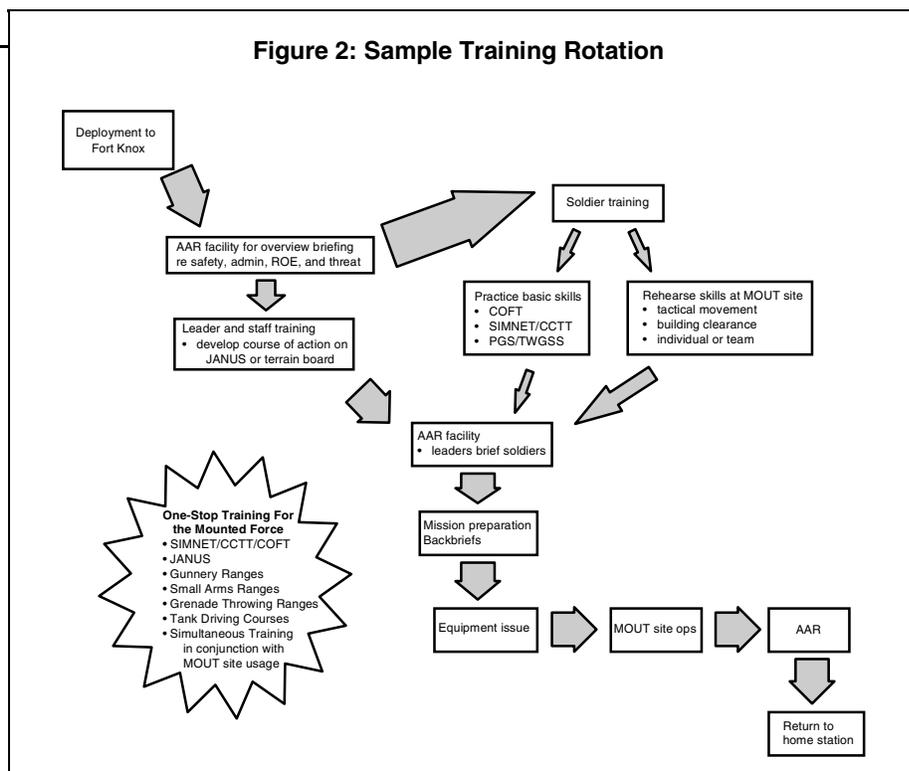
The IDF resorted to infantry operations that brought heavy casualties and political discontent at home.

By war's end, Israel found itself denounced by the international community as an aggressor nation, torn by internal political disputes, and dissatisfied with the conflict's military outcome.<sup>3</sup> The unhappy results for U.S. forces in Mogadishu similarly showed the risk of sending unsupported dismounted forces into a hostile urban setting.

The U.S. Army is not well prepared for urban operations. World War II-era tactics shape the weak mounted force MOUT doctrine that exists. In WWII, MOUT doctrine encouraged tanks to avoid cities, since urban terrain increased their vulnerability when already outgunned and underarmored. Today, Armor units do not list MOUT as a primary mission. Consequently, urban training receives low priority.

The Army still considers the city fight to be the foot soldier's domain.<sup>4</sup> The Army also lacks the facilities for developing and training new Mounted Force MOUT doctrine and matériel. Most CONUS MOUT sites focus upon dismounted operations and cannot support experimentation or training, since they cannot withstand tank and Bradley use. The lack of training facilities designed to handle the stress, weight, and impact of heavy armored vehicles encourages neglect of mounted force MOUT training.

Figure 2: Sample Training Rotation



Therefore, CONUS mounted training for urban conditions rarely occurs.

### Steps Toward a Solution

For almost a decade, Fort Knox worked toward improved capabilities for urban operations. In the 1980s, Soviet interest in MOUT operations increased sharply, resulting in creation of the Operational Maneuver Group. This organization targeted key NATO command and control centers located in urban areas. Its creation led Armor Center Commander Major General Thomas H. Tait to identify the need for Mounted Force MOUT readiness. He recommended building a test bed at Fort Knox to develop doctrine. His vision resulted in a range facility known as the Wilcox Project. This design incorporated long range gunnery, maneuver, complex obstacle breach, and an urban combat training site.<sup>5</sup> Despite funding delays, interest in the project continued into the 1990s. By 1997 Congress had provided \$13 million to build a Mounted Urban Combat Training Site at Fort Knox. This funding permitted completion of the planning and design work. Construction will begin this fall and training should start in early 1999.

### Urban Combat Training Site

The new Mounted Urban Combat Training Site will give the Army an unequaled training and doctrine development capability. The site will be large and sophisticated. Plans include a 26-acre spread located on Fort Knox's

northern training area. A permanent staff of 13 military and civilian personnel plus an 8-man observer/controller team will operate the site. Its features will represent typical residential, municipal, and business districts found in cities (see Figure 1). Plans include specialized buildings for mounted soldiers to learn and practice basic tactical principles for any urban setting. Some structures will include working utilities, while others will represent rubble shells.

The building designs permit modification of their outward appearance to suit a given scenario. Interior rooms, closets, and furniture will increase realism and the complexity of training activities. Reinforced structures and roadbeds will handle the weight and bulk of tanks without need for costly range repairs, and a functional railroad will permit the operation of trains through deployment areas.

Site plans emphasize preparing soldiers for the chaos of urban operations. Today's cities are dirty and debris-strewn. The MOUT site will be no different. TRADOC's emphasis upon "training the way you fight" spurred the planners to create a town filled with trash, debris, and abandoned, burnt-out vehicles. In addition, soldiers will encounter fire, smoke, and noise indoors and in the streets. After reviewing special effects used by moviemakers, current plans anticipate using propane gas to generate explosions and flames throughout the mock town. The gas station, for exam-

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ple, can be ignited to send streams of fire into the streets. Additions to the sensory chaos include reconfigurable buildings and a Class 100 bridge that can explode and burn. Amid such planned confusion will be pop-up targets of friendly, neutral, and hostile personnel. Such scenery tries to simulate the urban setting's assault upon the soldier's senses. Soldiers must learn to filter key information from these sights, sounds, and smells in order to survive in actual combat in built-up areas.

For use inside buildings, Range Control personnel devised a MILES machine gun. It emulates the sound and flash of a machine gun and can be deployed inside buildings to automatically sweep hallways. It fires when it detects motion and represents another hazard for the trainee already likely to be stumbling over furniture and searching through a maze of unfamiliar rooms. He can also expect to be shot at by another unique "weapon": a tracer shootback device. It uses fireworks similar to a Roman Candle and will be aimed directly at personnel, not the regulation 110 inches above the head for conventional small arms. The device produces a spectacular visual effect that simulates tracer ammunition, but carries a minimal safety risk. It does, however, force personnel to identify the source of the fire from among the buildings and debris and rapidly respond.

War games of modern urban combat anticipate Threat use of subways and sewers to provide subterranean mobility. Thus the MOUT site will include a sewer system. With adjustable water levels and floating debris resembling raw sewage, doses of commercially developed stink perfume will complete the impression of a real sewer. The individual soldier must focus upon protecting personal equipment. He will also need to respond to simulated biological and chemical agents. Finally, he will cope with a host of psychological factors likely to emerge after confinement in a dark and filthy atmosphere. For safety, the sewer plans include powerful overhead fans and lighting, and continuous visual monitoring to prevent accidents. Upon demand, the sewer can be flooded with light and the air cleared almost instantaneously.

MOUT operations do not require basic changes in leadership principles or doctrine; they do require wider coverage of details in planning. Dangling power lines, rules of engagement that prohibit destroying city blocks, and the sudden appearance of "real" trains carrying hazardous cargo such as propane tanks are all present in the MOUT site plans. Sce-

narios will force commanders to balance immediate tactical needs against the political impact of conducting operations in sensitive areas, such as the fake cemetery. The urban ambush threat to tanks from antitank weapons ranging from Molotov cocktails to ATGMs will be represented. Range Control personnel also plan to use paint-spewing .50 caliber and 37-mm weapons for added effect.

The constricted nature of the mock town requires special attention to fields of fire and gun tube elevation to engage targets in upper stories and basements. While buildings provide advantages to an attacker, the Mounted Force leader will have to assess the impact upon structural integrity before firing main guns or deploying tanks and Bradleys in buildings. Moreover, the varied height of buildings, the presence of a subterranean sewer system, and the expected close engagements will force coordinated planning of dismounted and mounted actions. Of considerable value across the force will be the enhancement of combined arms operations that results.

The MOUT site will exist to provide realistic experience in urban operations. While built to accommodate the Mounted Force, all interested active and reserve units plus law enforcement agencies can use it. A comprehensive set of scenarios will permit training from peace and humanitarian operations through mid-intensity combat.

The scenario mix can be continuously modified and expanded to reflect the environment in emerging trouble spots world-wide. Reflecting the importance of PSYOP and Civil Affairs actions during contingency operations, the site will include a communications building capable of radio and television broadcasts. Furthermore, the surrounding terrain permits airborne and river assaults upon the town.

The MOUT site has the capacity to support squad- through battalion-size operations. Four separate companies or a single battalion task force can train simultaneously. It can easily accommodate activities at the squad, team, or platoon level, including task-intensive training requiring only a single structure. The training unit determines the size and nature of the training activities desired. Current plans expect the MOUT site to be available 24-hours daily for 320 annual training days. Armor Center usage should account for about 40 percent of this time.

Arranging to use the MOUT site will follow the same process for other Fort Knox ranges.

A unit schedules the site at least six months in advance. During this period, the training unit's commander consults with the Armor School to link the unit's needs with training support packages and address any special requirements. He will also select the type of target interaction he wants. Options include force on force, using paint balls or blank fires, blank fires against a computer-controlled opponent, live fire in specially designated areas, or a mix of the above. Similarly, the unit commander will select simulation complexity, special effects, and the type of threat (i.e. — conventional force, paramilitary, or other). Figure 2 shows a sample training rotation.

The planned AAR capabilities parallel those of the major combat training centers. Eighteen video cameras — whose locations can be altered — recordings of all radio transmissions, and the computer records associated with both MILES and TWGSS/PGS operations capture data. Experienced observer/controllers will circulate through the training area and provide their personal observations and assessments of this data. Currently, the Armor School plans to conduct an AAR within four hours after a unit completes training. The unit's take-home package will include all compiled data, assessments of operations, and a video of the AAR itself. The latter will be conducted in a specially designed facility with state-of-the-art video and computer monitoring stations and a detailed model of the MOUT site.

MOUT site development will not end with its physical construction. Instead it will become a test bed to develop new tactics, techniques, and procedures for the Mounted Force. In this way it will address a deficiency clearly identified by Armor Center commander MG George H. Harmeyer at the 1997 Armor Conference as Armor School Commandant and proponent for the Armor Force. The site will support Armor School instruction, and it is expected to be incorporated into the POIs for Armor and Cavalry personnel. Co-located with the source of Armor and Cavalry doctrine at Fort Knox, the MOUT site offers an accessible medium for testing new concepts before their adoption throughout the force.

The MOUT site's experimentation value extends into the virtual arena. Future actions will link it with Fort Knox's Close Combat Tactical Trainer (CCTT) and Janus, and similar facilities on other posts. Interaction between virtual operations at other posts and the actions of a unit on the ground in the mock town will become possible by building upon concepts demonstrated during Advanced

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Warfighting Experiment *Focused Dispatch*. This end state requires additional resources; particularly, urban databases must be designed for use in simulators. Currently, their complexity in comparison with rural areas and their creation costs make them unobtainable, but these obstacles are temporary. The technology already exists, and the Mounted Force can look forward to the benefits from linking live, virtual, and constructive training in a MOUT environment. The start point, however, lies in the physical facility planned at Fort Knox.

## Notes

<sup>1</sup>Paul Bracken, "Urban Sprawl and NATO Defense," *Military Review*, 57 (October 1977), pp. 33-34; TRADOC Liaison Office, Federal Republic of Germany, M-22-83, "Defense of Villages Applicable Today?" Analysis of 1944 publication of German Army, 7 December 1983, p.1.

<sup>2</sup>George Schecter, "Urban warfare poses substantial new military problems," *Defense Systems Review*, (April 1984), p. 30.

<sup>3</sup>See Eric F. McMillin, "The IDF, the PLO, and Urban Warfare: Lebanon 1982," University of Chicago Master's Thesis, May 21, 1993.

<sup>4</sup>FM 90-10-1: *An Infantryman's Guide to Combat in Built-Up Areas*, 12 May 1993; TC 90-1: *Training for Military Operations on Urbanized Terrain*, 30 September 1993.

<sup>5</sup>John J. Mahan, "MOUT: The Quiet Imperative," *Military Review*, 64 (July 1984), 48-50.

## Note on Sources

Other than the sources identified in the footnotes, background information for this article came from discussions with Mounted Force personnel at the Armor Center and the specific sources listed below:

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G3/DPTM, "Mounted Urban Combat: Meeting Challenges of Future Urban Combat Environment," Briefing prepared for LTG Leonard D. Holder, Jr., March 10, 1997.

Notes of interview with F.L. Andrews, Range Division Chief, March 31, 1997.

Notes of discussion with Michael Kelley, DTDD Training Development Division, April 18 and 21, 1997.

Range Division, "Mounted Urban Combat Training Site, Fort Knox, KY," summary sheet, 1997.

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Video Teleconference, CSEEA, February 18, 1997.