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 unequaled 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. Data for Africa and Latin America shows rapid urbanization in these likely hot spots. 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.1 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 underarmed. 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.2 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.

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.3 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-

![Figure 2: Sample Training Rotation](image-url)
ple, can be ignited to send streams of fire into the streets. Additions to the sen-
sory chaos include reconfigurable build-
ings and a Class 100 bridge that can ex-
plode and burn. Amid such planned con-
fusion will be pop-up targets of friendly, neutral, and hostile personnel. Such
scenery tries to simulate the urban set-
ting’s assault upon the soldier’s senses. Soldiers must learn to filter key informa-
tion from these sights, sounds, and
smells in order to survive in actual com-
bat in built-up areas.

For use inside buildings, Range Control
personnel devised a MILES machine gun. It simulates the sound and flash of a
machine gun and can be deployed inside
buildings to automatically sweep hall-
ways. It fires when it detects motion and
represents another hazard for the trainee
already likely to be stumbling over furni-
ture and searching through a maze of un-
familiar rooms. He can also expect to be
shot at by another unique “weapon”: a
trancer shotback device. It uses fires-
works 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 lev-
els and floating debris resembling raw
sewage, doses of commercially devel-
oped stink perfume will complete the
impression of a real sewer. The individ-
ual 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 over-
head fans and lighting, and continuous
visual monitoring to prevent accidents.
Upon demand, the sewer can be flooded
with light and the air cleared almost in-
stantaneously.

MOUT operations do not require basic
changes in leadership principles or doc-
trine; they do require wider coverage of
detail in planning. Dangling power lines, rules of engagement that prohibit
destroying city blocks, and the sudden
appearance of “real” trains carrying haz-
arous cargo such as propane tanks are
all present in the MOUT site plans. Scen-
narios will force commanders to balance
immediate tactical needs against the po-
itical 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 en-
gagements will force coordinated plan-
ing of dismounted and mounted ac-
tions. Of considerable value across the
force will be the enhancement of com-
bined arms operations that results.

The MOUT site will exist to provide re-
alistic experience in urban operations.
While built to accommodate the
Mounted Force, all interested active and
reserve units plus law enforcement agen-
cies 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 en-
vironment 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 capa-
bile of radio and television broadcasts.
Furthermore, the surrounding terrain per-
mits airborne and river assaults upon the
town.

The MOUT site has the capacity to support squad-
through battalion-size op-

erations. Four separate companies or a
single battalion task force can train si-
multaneously. 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 na-
ture of the training activities desired.
Current plans expect the MOUT site to be
available 24-hours daily for 320 an-
nual 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 interac-
tion he wants. Options include force on
force, using paint balls or blank fires,
blank fires against a computer-controlled
opponent, live fire in specially design-
nated areas, or a mix of the above. Simi-
larly, the unit commander will select
simulation complexity, special effects,
and the type of threat (i.e. — conven-
tional force, paramilitary, or other).
Figure 2 shows a sample training rotation.

The planned AAR capabilities parallel
those of the major combat training cen-
ters. 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, assess-
ments 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 Confer-
ence 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 person-
nel. 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. Fu-
ture actions will link it with Fort Knox’s
Close Combat Tactical Trainer (CCTT)
and Janus, and similar facilities on other
posts. Interaction between virtual opera-
tions at other posts and the actions of a
unit on the ground in the mock town will
become possible by building upon con-
cepts demonstrated during Advanced
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


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:


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


Range Division, Chronology of Mounted Urban Combat Training Site, 1997.