

CHAPTER 6 COMBAT SUPPORT

Combat support is fire support and other assistance provided to combat elements. It normally includes field artillery, air defense, aviation (less air cavalry), engineers, military police, communications, electronic warfare, and NBC.

6-1. MORTARS

Mortars are the most responsive indirect fires available to battalion and company commanders. Their mission is to provide close and immediate fire support to the maneuver units. Mortars are well suited for combat in built-up areas because of their high rate of fire, steep angle of fall, and short minimum range. Battalion and company commanders must plan mortar support with the FSO as part of the total fire support system. (See FM 7-90 for detailed information on the tactical employment of mortars.)

a. **Role of Mortar Units.** The role of mortar units is to deliver suppressive fires to support maneuver, especially against dismounted infantry. Mortars can be used to obscure, neutralize, suppress, or illuminate during MOUT. Mortar fires inhibit enemy fires and movement, allowing friendly forces to maneuver to a position of advantage. Effectively integrating mortar fires with dismounted maneuver is key to successful combat in a built-up area at the rifle company and battalion level.

b. **Position Selection.** The selection of mortar positions depends on the size of buildings, the size of the urban area, and the mission. Also, rubble can be used to construct a parapet for firing positions.

(1) The use of existing structures (for example, garages, office buildings, or highway overpasses) for hide positions is recommended to afford maximum protection and minimize the camouflage effort. By proper use of mask, survivability can be enhanced. If the mortar has to fire in excess of 885 mils to clear a frontal mask, the enemy counterbattery threat is reduced. These principles can be used in both the offense and the defense.

(2) Mortars should not be mounted directly on concrete; however, sandbags may be used as a buffer. Sandbags should consist of two or three layers; be butted against a curb or wall; and extend at least one sandbag width beyond the baseplate.

(3) Mortars are usually not placed on top of buildings because lack of cover and mask makes them vulnerable. They should not be placed inside buildings with damaged roofs unless the structure's stability has been checked. Overpressure can injure personnel, and the shock on the floor can weaken or collapse the structure.

c. **Communications.** An increased use of wire, messenger, and visual signals will be required. However, wire should be the primary means of communication between the forward observers, fire support team, fire direction center, and mortars since elements are close to each other. Also, FM radio transmissions in built-up areas are likely to be erratic. Structures reduce radio ranges; however, remoting of antennas to upper floors or roofs may improve communications and enhance operator survivability. Another technique that applies is the use of radio retransmissions. A practical solution is to use existing civilian systems to supplement the unit's capability.

d. **Magnetic Interference.** In an urban environment, all magnetic instruments are affected by surrounding structural steel, electrical cables, and

automobiles. Minimum distance guidelines for the use of the M2 aiming circle (FM 23-90) will be difficult to apply. To overcome this problem, an azimuth is obtained to a distant aiming point. From this azimuth, the back azimuth of the direction of fire is subtracted. The difference is indexed on the red scale and the gun manipulated until the vertical cross hair of the sight is on the aiming point. Such features as the direction of a street may be used instead of a distant aiming point.

e. High-Explosive Ammunition. During MOUT, mortar HE fires are used more than any other type of indirect fire weapon. The most common and valuable use for mortars is often harassment and interdiction fires. One of their greatest contributions is interdicting supplies, evacuation efforts, and reinforcement in the enemy rear just behind his forward defensive positions. Although mortar fires are often targeted against roads and other open areas, the natural dispersion of indirect fires will result in many hits on buildings. Leaders must use care when planning mortar fires during MOUT to minimize collateral damage.

(1) High-explosive ammunition, especially the 120-mm projectile, gives good results when used on lightly built structures within cities. However, it does not perform well against reinforced concrete found in larger urban areas.

(2) When using HE ammunition in urban fighting, only point detonating fuzes should be used. The use of proximity fuzes should be avoided, because the nature of built-up areas causes proximity fuzes to function prematurely. Proximity fuzes, however, are useful in attacking targets such as OPs on tops of buildings.

(3) During both World War II and recent Middle East conflicts, light mortar HE fires have been used extensively during MOUT to deny the use of streets, parks, and plazas to enemy personnel.

f. Illumination. In the offense, illuminating rounds are planned to burst above the objective to put enemy troops in the light. If the illumination is behind the objective, the enemy troops would be in the shadows rather than in the light. In the defense, illumination is planned to burst behind friendly troops to put them in the shadows and place the enemy troops in the light. Buildings reduce the effectiveness of the illumination by creating shadows. Continuous illumination requires close coordination between the FO and FDC to produce the proper effect by bringing the illumination over the defensive positions as the enemy troops approach the buildings.

g. Special Considerations. When planning the use of mortars, commanders must consider the following:

(1) FOs should be positioned on tops of buildings so target acquisition and adjustments in fire can best be accomplished.

(2) Commanders must understand ammunition effects to correctly estimate the number of volleys needed for the specific target coverage. Also, the effects of using WP or LP may create unwanted smoke screens or limited visibility conditions that could interfere with the tactical plan.

(3) FOs must be able to determine dead space. Dead space is the area in which indirect fires cannot reach the street level because of buildings. This area is a safe haven for the enemy. For mortars, the dead space is about one-half the height of the building.

(4) Mortar crews should plan to provide their own security.

(5) Commanders must give special consideration to where and when mortars are to displace while providing immediate indirect fires to support the overall tactical plan. Combat in built-up areas adversely affects the ability of mortars to displace because of rubble and the close nature of MOUT.

6-2. FIELD ARTILLERY

A field artillery battalion is normally assigned the tactical mission of direct support (DS) to a maneuver brigade. A battery may not be placed in DS of a battalion task force, but maybe attached.

a. Appropriate fire support coordination measures should be carefully considered since fighting in built-up areas results in opposing forces fighting in close combat. When planning for fire support in a built-up area, the battalion commander, in coordination with his FSO, considers the following.

(1) Target acquisition may be more difficult because of the increased cover and concealment afforded by the terrain. Ground observation is limited in built-up areas, therefore FOs should be placed on tops of buildings. Adjusting fires is difficult since buildings block the view of adjusting rounds; therefore, the lateral method of adjustment should be used.

(2) Initial rounds are adjusted laterally until a round impacts on the street perpendicular to the FEBA. Airburst rounds are best for this adjustment. The adjustments must be made by sound. When rounds impact on the perpendicular street, they are adjusted for range. When the range is correct, a lateral shift is made onto the target and the gunner fires for effect.

(3) Special consideration must be given to shell and fuze combinations when effects of munitions are limited by buildings.

(a) Careful use of VT is required to avoid premature arming.

(b) Indirect fires may create unwanted rubble.

(c) The close proximity of enemy and unfriendly troops requires careful coordination.

(d) WP may create unwanted fires and smoke.

(e) Fuze delay should be used to penetrate fortifications.

(f) Illumination rounds can be effective; however, friendly positions should remain in shadows and enemy positions should be highlighted. Tall buildings may mask the effects of illumination rounds.

(g) VT, TI, and ICM are effective for clearing enemy positions, observers, and antennas off rooftops.

(h) Swirling winds may degrade smoke operations.

(i) FASCAM may be used to impede enemy movements. FASCAM effectiveness is reduced when delivered on a hard surface.

(4) Targeting is difficult in urban terrain because the enemy has many covered and concealed positions and movement lanes. The enemy may be on rooftops and in buildings, and may use sewer and subway systems. Aerial observers are extremely valuable for targeting because they can see deep to detect movements, positions on rooftops, and fortifications. Targets should be planned on rooftops to clear away enemy FOs as well as communications and radar equipment. Targets should also be planned on major roads, at road intersections, and on known or likely enemy fortifications. Employing artillery in the direct fire mode to destroy fortifications should be considered. Also, restrictive fire support coordination measures (such as a restrictive fire area or no-fire area) maybe imposed to protect civilians and critical installations.

(5) The 155-mm and 8-inch self-propelled howitzers are effective in neutralizing concrete targets with direct fire. Concrete-piercing 155-mm and 8-inch rounds can penetrate 36 inches and 56 inches of concrete, respectively, at ranges up to 2,200 meters. These howitzers must be closely protected when used in the direct-fire mode since none of them have any significant protection for their crews. Restrictions may be placed on types of artillery ammunition used to reduce rubble on avenues of movement that may be used by friendly forces.

(6) Forward observers must be able to determine where and how large the dead space is. Dead space is the area in which indirect fires cannot reach the street level because of buildings. This area is a safe haven for the enemy because he is protected from indirect fires. For low-angle artillery, the dead space is about five times the height of the building. For mortars and high-angle artillery, the dead space is about one-half the height of the building.

(7) Aerial observers are effective for seeing behind buildings immediately to the front of friendly forces. They are extremely helpful when using the ladder method of adjustment because they may actually see the adjusting rounds impact behind buildings. Aerial observers can also relay calls for fire when communications are degraded due to power lines or building mask.

(8) Radar can locate many artillery and mortar targets in an urban environment because of the high percentage of high-angle fires. If radars are sited too close behind tall buildings, some effectiveness will be lost.

b. The use of airburst fires is an effective means of clearing snipers from rooftops. HE shells with delay fuzes may be effective against enemy troops in the upper floors of buildings, but, due to the overhead cover provided by the building, such shells have little effect on the enemy in the lower floors. (The planning and use of field artillery in offensive and defensive operations are also addressed in Chapters 3 and 4.)

6-3. NAVAL GUNFIRE

When a unit is operating with gunfire support within range, naval gunfire can provide effective fire support. If naval gunfire is used, a supporting arms liaison team (SALT) of a US Marine air naval gunfire liaison company (ANGLICO) may be attached to the battalion. The SALT consists of one liaison section that operates at the battalion main CP. It also has two firepower control teams at the company level, providing ship-to-shore communications and coordination for naval gunfire support. The SALT collocates and coordinates all naval gunfire support with battalion FSE.

6-4. TACTICAL AIR

A battalion may be supported by USAF, USN, USMC, or allied fighters and attack aircraft while fighting in built-up areas.

a. The employment of CAS depends on the following.

(1) *Shock and concussion.* Heavy air bombardment provides tactical advantages to an attacker. The shock and concussion of the bombardment reduce the efficiency of defending troops and destroy defensive positions.

(2) *Rubble and debris.* The rubble and debris resulting from air attacks may increase the defender's cover while creating major obstacles to the movement of attacking forces.

(3) *Proximity of friendly troops.* The proximity of opposing forces to friendly troops may require the use of precision-guided munitions and may

require the temporary disengagement of friendly forces in contact. The AC-130 is the air weapons platform of choice for precision MOUT as the proximity of friendly troops precludes other tactical air use.

(4) *Indigenous civilians or key facilities.* The use of air weapons may be restricted by the presence of civilians or the requirement to preserve key facilities within a city.

(5) *Limited ground observation.* Limited ground observation may require the use of airborne FAC.

- b. CAS maybe employed during offensive operations—
 - To support the isolation of the city by interdicting entry and exit routes.
 - To support attacking units by reducing enemy strongpoints with precision-guided munitions.
 - To conduct tactical air reconnaissance and to provide detailed intelligence of enemy dispositions, equipment, and strengths.
- c. CAS maybe employed during defensive operations—
 - To strike enemy attack formations and concentrations outside the built-up area.
 - To provide precision-guided munitions support to counterattacks for recovering fallen friendly strongpoints.

6-5. AIR DEFENSE

Basic air defense doctrine does not change when units operate in urbanized terrain. The fundamental principles of mix, mass, mobility, and integration all apply to the employment of air defense assets.

a. The ground commander must consider the following when developing his air defense plan.

(1) Enemy air targets, such as principal lines of communications, road and rail networks, and bridges, are often found in and around built-up areas.

(2) Good firing positions may be difficult to find and occupy for long-range air defense missile systems in the built-up areas. Therefore, the number of weapons the commander can employ may be limited.

(3) Movement between positions is normally restricted in built-up areas.

(4) Long-range systems can provide air defense cover from positions on or outside of the edge of the city.

(5) Radar masking and degraded communications reduce air defense warning time for all units. Air defense control measures must be adjusted to permit responsive air defense within this reduced warning environment.

b. Positioning of Vulcan weapons in built-up areas is often limited to more open areas without masking such as parks, fields, and rail yards. Towed Vulcans (separated from their prime movers) maybe emplaced by helicopter onto rooftops in dense built-up areas to provide protection against air attacks from all directions. This should be accomplished only when justified by the expected length of occupation of the area and of the enemy air threat.

c. Stingers provide protection for battalions the same as in any operation. When employed within the built-up area, rooftops normally offer the best firing positions.

d. Heavy machine guns emplaced on rooftops can also provide additional air defense.

6-6. ARMY AVIATION

Army aviation support of urban operations includes attack, observation, utility, and cargo helicopters for air movement or air assault operations, command and control, observation, reconnaissance, operations of sensory devices, attack, radio transmissions, and medical evacuation. When using Army aviation, the commander considers the enemy air situation, enemy air defenses, terrain in or adjacent to the city, and the availability of Army or Air Force suppression means.

a. **Offensive Missions.** Missions for Army aviation in support of urban offensive operations include:

(1) Air assault operations to secure key terrain adjacent to or in the urban area and key objectives when the area is lightly defended or enemy fires have been suppressed.

(2) Employment of attack helicopters with aerial weapons to support the commander's scheme of maneuver in or adjacent to the built-up area.

(3) Air movement and medical evacuation.

(4) Command and control by providing rapid displacement of command elements to critical areas and an airborne command platform.

(5) Aerial retransmission.

(6) Intelligence-gathering operations.

(7) Long-range antiarmor fire.

b. **Defensive Missions.** Missions for Army aviation during urban defensive operations include:

(1) Long-range antiarmor fire.

(2) Rapid insertion or relocation of personnel (antiarmor teams and reserves).

(3) Rapid concentration of forces and fires.

(4) Retrograde movement of friendly forces.

(5) Combat service support operations.

(6) Command and control.

(7) Communications.

(8) Intelligence-gathering operations.

6-7. HELICOPTERS

An advantage can be gained by air assaulting onto rooftops. Before a mission, an inspection should be made of rooftops to ensure that no obstacles exist, such as electrical wires, telephone poles, antennas, or enemy-emplaced mines and wire, that could damage helicopters or troops. In many modern cities, office buildings often have helipads on their roofs, which are ideal for landing helicopters. Other buildings, such as parking garages, are usually strong enough to support the weight of a helicopter. The delivery of troops onto a building can also be accomplished by rappelling from the helicopter or jumping out of the helicopter while it hovers just above the roof.

a. **Small-Scale Assaults.** Small units may have to be landed onto the rooftop of a key building. Success depends on minimum exposure and the suppression of all enemy positions that could fire on the helicopter. Depending on the construction of the roof, rappelling troops from the helicopter may be more of an advantage than landing them on the rooftop. The rappel is often more reliable and safer for the troops than a jump from a low hover.

With practice, soldiers can accomplish a rappel insertion with a minimum of exposure.

b. **Large-Scale Assaults.** For large-scale air assaults, rooftop landings are not practical. Therefore, open spaces (parks, parking lots, sports arenas) within the built-up area must be used. Several spaces large enough for helicopter operations normally can be found within 2 kilometers of a city's center.

c. **Air Movement of Troops and Supplies.** In battle in a built-up area, heliborne troop movement may become a major requirement. Units engaged in house-to-house fighting normally suffer more casualties than units fighting in open terrain. The casualties must be evacuated and replaced quickly with new troops. At the same time, roads are likely to be crowded with resupply and evacuation vehicles, and may also be blocked with craters or rubble. Helicopters provide a responsive means to move troops by flying nap-of-the-earth flight techniques down selected streets already secured and cleared of obstacles. Aircraft deliver the troops at the last covered position short of the fighting and then return without exposure to enemy direct fire. Similar flight techniques can be used for air movement of supplies and medical evacuation missions.

d. **Air Assaults.** Air assaults into enemy-held territory are extremely difficult (Figure 6-1). One technique is to fly nap-of-the-earth down a broad street or commercial ribbon while attack helicopters and door gunners from utility helicopters suppress buildings on either side of the street. Scheduled artillery preparations can be incorporated into the air assault plan through the H-hour sequence. Feints and demonstrations in the form of false insertions can confuse the enemy as to the real assault landings.



Figure 6-1. Air assault of a built-up area.

6-8. ENGINEERS

The engineer terrain team supports the division commander and staff with specialized terrain analyses, products, and information for combat in built-up areas. During fighting in built-up areas, divisional engineers should be attached to the dispersed maneuver elements; for example, one engineer company to each committed brigade, one platoon to each battalion or battalion task force, and a squad to each company or company team. Most engineer manual-labor tasks, however, will have to be completed by infantry units, with reinforcing engineer heavy-equipment support and technical supervision.

a. **Offensive Missions.** Engineers may perform the following missions during offensive operations.

(1) Conduct a technical reconnaissance to determine the location and type of enemy obstacles and minefield, and to make breaching recommendations.

(2) Clear barricades and heavy rubble with earth-moving equipment to assist forward movement.

(3) Use the fires from the CEV or use hand-emplaced demolitions to destroy fortifications and strongpoints that cannot be reduced with the maneuver unit's organic assets.

(4) Use the CEV to destroy structures or to clear rubble.

(5) Lay mines to protect flanks and rear areas.

(6) Conduct mobility operations (gap crossing).

b. **Defensive Missions.** Engineers may perform the following missions during the defense of a built-up area.

(1) Construct complex obstacle systems.

(2) Provide technical advice to maneuver commanders.

(3) Rubble buildings.

(4) Lay mines.

(5) Assist in the preparation of defensive strongpoints.

(6) Maintain counterattack, communications, and resupply routes.

(7) Enhance movement between buildings, catwalks, bridges, and so on.

(8) Fight as infantry, when needed.

c. **Defense Against Armor.** In defensive situations, when opposed by an armor-heavy enemy, priority should be given to the construction of antiarmor obstacles throughout the built-up area. Use of local materials, where possible, makes obstacle construction easier and reduces logistics requirements. Streets should be barricaded in front of defensive positions at the effective range of antitank weapons. These weapons are used to increase the destruction by antiarmor fires, to separate dismounted enemy infantry from their supporting tanks, and to assist in the delay and destruction of the attacker. Antitank mines with antihandling devices, integrated with antipersonnel mines in and around obstacles and covered by fires, help stop an enemy attack.

6-9. MILITARY POLICE

Military police operations play a significant role by assisting the tactical commander in meeting the challenges associated with combat in built-up areas. Through their four battlefield missions (battlefield circulation control, area security, EPW operations, and law and order) MP provide a wide range

of diverse support in urban terrain. MP operations require continuous coordination with host nation civilian police to maintain control of the civilian population and to enforce law and order.

a. MP units take measures to support area damage control operations that are frequently found in built-up areas. With the increased possibility of rubble, MP units report, block off affected areas, and reroute movement to alternate road networks.

b. MP units also secure critical activities, such as communications centers and water and electrical supply sources. They are responsible for securing critical cells within the corps and TAACOM main CPs, which often use existing "hardstand" structures located in built-up areas.

c. MP units are tasked with EPW operations and collect them as far forward as possible. They operate collecting points and holding areas to briefly retain EPWs and civilian internees (CIs). EPW operations are of great importance in built-up areas because the rate of capture can be higher than normal.

d. Commanders must realize that MP support may not be available and that infantry soldiers may have to assume certain MP missions. The following are some of those missions:

(1) Route reconnaissance, selection of routes and alternate routes, convoy escort, and security of lines of communication.

(2) Control of roads, waterways, and railroad terminals, which are critical chokepoints in the main supply routes.

(3) Security of critical sites and facilities to include communication centers, government buildings, water and electrical supply sources, C4 nodes, nuclear or chemical delivery means and storage facilities, and other mission essential areas.

(4) Refugee control in close cooperation with host nation civil authorities. (See Chapter 7 for more information.)

(5) Collection and escort of EPWs.

6-10. COMMUNICATIONS

Buildings and electrical power lines reduce the range of FM radios. To overcome this problem, battalions set up retransmission stations or radio relays, which are most effective when placed in high areas. Antennas should be camouflaged by placing them near tall structures. Remoting radio sets or placing antennas on rooftops can also solve the range problem.

a. **Wire.** Wire is a more secure and effective means of communications in built-up areas. Wires should be laid overhead on existing poles or underground to prevent vehicles from cutting them.

b. **Messengers and Visual Signals.** Messengers and visual signals can also be used in built-up areas. Messengers must plan routes that avoid pockets of resistance. Routes and time schedules should be varied to avoid establishing a pattern. Visual signals must be planned so they can be seen from the buildings.

c. **Sound.** Sound signals are normally not effective in built-up areas due to too much surrounding noise.

d. **Existing Systems.** If existing civil or military communications facilities can be captured intact, they can also be used by the infantry battalion. A civilian phone system, for instance, can provide a reliable, secure means of

communication if codes and authentication tables are used. Other civilian media can also be used to broadcast messages to the public.

(1) Evacuation notices, evacuation routes, and other emergency notices designed to warn or advise the civilian population must be coordinated through the civil affairs officer. Such notices should be issued by the local civil government through printed or electronic news media.

(2) Use of news media channels in the immediate area of combat operations for other than emergency communications must also be coordinated through the civil affairs officer. A record copy of such communications will be sent to the first public affairs office in the chain of command.

COMBAT SERVICE SUPPORT AND LEGAL ASPECTS OF COMBAT

During combat in built-up areas, the terrain and the nature of operations create unique demands on the battalion CSS system. Increased ammunition consumption, high casualty rates, transportation difficulties resulting from rubble, and the decentralized nature of operations all challenge the battalion CSS operators and planners. The solutions to these problems require innovative techniques and in-depth planning.

Section I. COMBAT SERVICE SUPPORT

Combat in built-up areas presents a different set of problems, but the supply and movement operations of the support platoon change minimally. The guidelines and principal functions of CSS are explained in this section.

7-1. GUIDELINES

Guidelines for providing effective CSS to units fighting in built-up areas are explained in this paragraph.

- a. Provide supplies to using units in the required quantities as close as possible to the location where those supplies are needed.
- b. Protect supplies and CSS elements from the effects of enemy fire by both seeking cover and avoiding detection.
- c. Disperse and decentralize CSS elements with proper emphasis on communication, command and control, security, and proximity of MSR for resupply.
- d. Plan for the use of carrying parties and litter bearers.
- e. Plan for and use host country support and civil resources when authorized and practical.
- f. Position support units as far forward as the tactical situation permits.
- g. Plan for requesting and arranging special equipment such as the M202 FLASH, toggle ropes with grappling hooks, ladders, and so on.
- h. Position support units near drop or landing zones for resupply from corps to forward units to reduce surface movement.

7-2. PRINCIPAL FUNCTIONS

The principal functions of CSS in built-up areas are to arm, fuel, fix, and man the combat systems.

- a. **Arm.** Combat in built-up areas is characterized by extremely high ammunition expenditure rates. Not only do individual soldiers fire more, but they also use more munitions such as smoke, concussion, and fragmentation grenades; LAWs; AT4s; Claymore mines; and demolitions. The ammunition consumption rate for the first day of combat in a built-up area can be up to four times the normal rate. Even though it decreases during succeeding days, consumption remains high. Commanders and S4s must plan to meet these high consumption rates. The plan must include how ammunition and demolitions are to be moved forward to the companies. BFVs and M113 APCs may have to be allocated for the movement of ammunition if rubble or glass

prevents wheeled-vehicle traffic. Carrying parties may also have to be used if streets are blocked by rubble.

b. **Fuel.** The amount of bulk fuel needed by a battalion during combat in built-up areas is greatly reduced. Combat vehicles normally use less fuel in built-up areas, because they travel shorter distances and perform less cross-country traveling. Engineer equipment and power generation equipment may use more fuel but requirements are small. A company may not use much fuel daily, but when it does need fuel, a problem exists in delivering bulk fuel to the vehicle. In open terrain, a vehicle that has run out of fuel can be recovered later. But in built-up areas, the same vehicle is probably going to be lost quickly. Commanders and S4s must plan and provide the means of moving limited amounts of bulk fuel forward to combat units.

c. **Fix.** Maintenance teams must operate well forward to support units fighting in built-up areas. Although some maintenance operations maybe consolidated in civilian facilities, many vehicles will have to be fixed near the fighting positions. Battle damage assessment and repair (BDAR) procedures allow mechanics to be inventive and make maximum use of battlefield damage, analysis, and repair techniques to return damaged vehicles to a serviceable condition (see applicable TMs).

(1) Combat in built-up areas generates a high demand for tires.

(2) The dust and rough handling characteristic of combat in built-up areas also places great strains on communication and night observation devices.

(3) The unit armorers and their small-arms repair kits provide only limited maintenance. S4s should plan for increased weapon maintenance demands and coordinate maintenance support from higher headquarters. Based on recommendations from the staff (S3, S4, motor officer), the commander may choose to consolidate and cross-level major items of equipment and weapons.

d. **Man.** Units conducting combat in built-up areas must expect high casualty rates. According to the factors outlined in FM 101-10-1, Volume 2, units may experience 6.6 percent casualties on the first day of an attack and 3.5 percent each succeeding day. In the defense, the planning percentage is a casualty rate of 3.5 percent on the first day and 1.9 percent each successive day. Units attacking a defended built-up area experience casualties of more than 6 percent. Casualty feeder reports must be prepared scrupulously and forwarded to the battalion personnel and administration center (PAC).

(1) The S1 with the medical platoon leader must plan to expedite the evacuation of wounded out of the built-up area. Forward aid station locations and evacuation routes must be planned and disseminated to the lowest level. Higher casualty rates should be expected and may require the stockpiling of medical supplies and augmentation of medical personnel from higher headquarters.

(2) The battalion PAC should process replacements quickly and transport them to their new unit. The battalion PAC is responsible for reviewing assignment orders, welcoming soldiers to the battalion, assigning soldiers IAW commanders priorities, obtaining personal information, and collecting medical records and forwarding them to the aid station. It is also responsible for adding names to the battle roster, preparing SIDPERS input for each one, and processing the names into the servicing postal activity. The S1 and

PAC should brief the new soldiers on the tactical situation, provide mess and medical support as needed, inspect for combat critical equipment shortages, and coordinate transportation to units. Replacements should be brought forward from the field trains with the LOGPAC and linked up with their new unit's first sergeant. If replacements are brought forward at unscheduled times, the LRP should still be used as the linkup point.

(3) Proper accountability of platoon personnel and accurate strength reporting are essential to support decision making by platoon leaders, company commanders, and, the battalion commander. Using battle rosters, leaders in the platoon maintain accurate, up-to-date records of their personnel. At periodic intervals, they provide strength figures to the company CP. During combat, they provide hasty strength reports on request or when significant changes in strength occur.

(4) By-name casualty information is reported by wire or by messenger to company headquarters during lulls in the tactical situation. This information should not be transmitted by radio since it could adversely affect unit morale, and the enemy could gain valuable information. Soldiers having direct knowledge of an incident complete a DA Form 1155 to report missing or captured soldiers, or casualties no longer under US control. (See AR 600-8-1 for instructions on how to complete this form.) DA Form 1156 is used to report soldiers who are killed or wounded. (See AR 600-10 for instructions on how to complete this form.) After being collected and reviewed for accuracy by the platoon leader or platoon sergeant, these forms are forwarded to the company headquarters. These forms provide important casualty information and are also used to determine the platoon's replacement requirements.

(5) The S1 must coordinate with the S3 or S4 for the transport of replacements over long distances, and for the issue of missing individual combat equipment. At night, replacements may need to be sent forward with guides to their new unit. These groups maybe used to carry critical supplies and ammunition forward.

(6) The S1 must be prepared to deal with not only physical wounds but also psychological wounds.

(a) Prolonged combat in built-up areas generates incredible stress. Some soldiers show signs of inability to cope with such stress. Stress management is the responsibility of commanders at all levels. The S1 coordinates trained personnel, such as medical personnel and unit ministry team personnel, to support units when the situation dictates.

(b) The more intense the combat, the higher the casualties; the more extreme the weather, the longer the battle lasts; the more combat exhaustion and stress, the more casualties. The battalion PA, brigade surgeon, or other qualified medical personnel should be brought forward to screen stress casualties.

(c) The S1 should plan to provide the soldier with a short rest period in a protected section of the battfalion rear area, along with warm food and hot liquids. He should take this opportunity to give the soldier command information products (obtained through public affairs channels). These inform the soldier of the larger picture of the battle, the theater of operations, the Army, and the welfare of the nation as a whole. As a result of treating stress problems in the battalion area, a higher percentage of stress casualties can be returned to duty than if they had been evacuated farther to the rear. When

recovered, they should be returned to their original units the same as all hospital returnees.

7-3. SUPPLY AND MOVEMENT FUNCTIONS

The S4, support platoon leader, and battalion motor officer share the responsibility for coordinating all supply and movement functions within the battalion. The use of preconfigured LOGPACs that are pushed forward to the elements in contact will be the key to successful resupply operations. The support platoon contains the trucks and trained drivers needed to move supplies forward. Some classes of supply, and how they are moved, may assume greater importance than during combat outside the city or village.

a. **Class I (Rations).** The process of ordering and moving rations to the battalion's forward positions is complicated by the dispersed nature of combat in built-up areas, and its increased caloric demands on soldiers. The battalion mess section must try to provide a hot meal.

(1) Combat in built-up areas not only causes great stress on soldiers but also requires great physical exertion. This combination of stress and exertion quickly causes dehydration. Unless potable water is continuously provided, soldiers seek local sources, which are usually contaminated by POL runoff, sewage, bacteria, or unburied corpses. Soldiers who are not provided sufficient quantities of potable water become casualties due to drinking from contaminated sources or from dehydration. Waterborne contaminants can quickly render entire units combat-ineffective.

(2) Water and other liquid supplements, such as coffee, tea, or soup, that must be forwarded to exposed positions may need to be backpacked at night.

b. **Class II (General Supplies).** Combat in built-up areas places a great strain on combat uniforms and footwear. The battalion S4 should increase his on-hand stocks of uniforms, boots, and individual combat equipment such as protective masks and armored vests. NBC protective suits either tear or wear out quickly when worn in the rubble, which is typical of combat in built-up areas. Extra stocks of these and protective mask filters should be kept on hand. Limited amounts of other Class II and IV items may be available locally. These should be gathered and used if authorized and practical. Local shops may provide such items as hand tools, nails, bolts, chains, and light construction equipment, which are useful in preparing a defense or reducing enemy-held positions. The unit's organic wire communications net may be augmented with locally obtained telephone wire and electrical wire.

c. **Class III (POL).** Bulk fuel may have to be brought forward from fuel tankers by use of 5-gallon cans. One man can carry a fuel can long distances, even over rubble, if it is lashed to a pack frame. Supplies of bulk Class III items and some prepackaged POL maybe available at local gas stations and garages. These may be contaminated or of poor quality. The S4 should coordinate with the brigade S4 to have a fuel test performed by a qualified member of the supporting FSB or FAST.

d. **Class IV (Barrier Materials).** If a unit is defending a built-up area, the required Class IV materials are less than in other areas. This class of supply is probably the most available locally. After coordinating the effort with higher headquarters, the S4, support platoon leader, and supporting

engineer officer can gather materials for use in strengthening a defense. Cargo trucks from the support platoon, wreckers or recovery vehicles from the maintenance platoon, and engineer construction equipment can be used to load and move barrier materials. Normally, division-or corps-level assets bring Class IV materials forward. Defense of a built-up area may require concertina wire and or barbed wire to restrict the enemy infantry's movements. Barriers can be built of abandoned cars and buses, which are dragged into position, turned on their sides, and chained together through the axles.

e. **Class V (Munitions).** Combat in built-up areas causes ammunition to be expended at extremely high rates. Commanders should plan for early resupply of explosives, grenades, and ammunition for small arms, direct fire, and redirect fire.

(1) In the defense, the S4 should prestock as much ammunition as practical in dispersed storage areas. These storage areas should be protected and be of easy access from the forward defensive positions. In the offense, attacking troops should not be overburdened with excessive ammunition. Mobile distribution points may be setup as low as company level.

(2) Commanders and S4s must plan to continuously deliver ammunition to the leading elements as they advance. This may be carried by armored vehicles close behind the advancing troops or by designated carrying parties. Modern ammunition, particularly missiles, is characterized by extensive amounts of packing material. The S4 must plan to have an element remove the ammunition depot overpack before it is transported forward. Resupply by helicopter (prepackaged slingloads) may be feasible.

(3) Removing the overpack from large amounts of ammunition can be a time-consuming process. It may require the efforts of the entire support platoon, augmented by available soldiers. If carrying parties are used to move ammunition forward, an individual can carry about 75 to 90 pounds using a pack frame or rucksack. Bulky and heavier loads can be carried by lashing them to litters and using teams of two to four men. Loads up to 400 pounds can be carried moderate distances using four-man teams.

NOTE: **DO NOT** use aidmen to carry ammunition forward as described above—it is a violation of the Geneva Accords.

f. **Class VIII (Medical Supplies).** Due to the decentralized nature of combat in built-up areas, medical supplies should be dispersed throughout the battalion, not just consolidated with the aid station and the individual aidmen. Individual soldiers, especially trained combat lifesavers, should carry additional bandages, cravats, and intravenous sets. Companies should request additional splints and stretchers.

7-4. MEDICAL

The battalion S1, battalion surgeon, physician's assistant, and medical platoon leader are responsible for planning and executing medical functions within the battalion. The most critical functions during combat in built-up areas include preventive medicine, trauma treatment, and evacuation. In addition, there should be a plan for the treatment and evacuation of NBC-related casualties that would occur in combat in built-up areas.

a. Combat in built-up areas exposes soldiers not only to combat wounds but also to the diseases endemic to the area of operations. Commanders must enforce prevention measures against the spread of infectious diseases.

The medical platoon advises the commander on how best to implement the use of prophylactics.

b. Although the aidman normally attached to each rifle platoon is the soldier best trained in the treatment of traumatic injury, he can quickly become overwhelmed by the number of casualties needing care. The commander must train selected soldiers within the platoons to perform basic trauma treatment. The work of these combat lifesavers, plus the buddy-aid efforts of individual soldier, eases the burden of the aidman and allows him to concentrate on the seriously wounded. The medical platoon should plan to care for the mass casualties inherent in combat in built-up areas. The incidence of crushing injuries, eye injuries, burns, and fractures increases.

c. The difficulties encountered when evacuating casualties from urban terrain are many and require innovative techniques and procedures. The planning for medical evacuation in urban terrain must include special equipment requirements, use of litter teams, use of air ambulances and the rescue hoist, use of the ambulance shuttle system, and communications requirements and techniques for locating casualties.

(1) Special equipment requirements include ropes, pulleys, sked litters, axes, crowbars, and other tools used to break through barriers.

(2) Although litter teams are labor intensive, they are required for evacuation from buildings, where casualties can occur on any level. Also, rubble in the streets, barricades, and demolition of roads impede the use of ground ambulances, requiring a heavy reliance on litter teams. The medical personnel assigned to the unit must dismount from the ambulance, and search for and rescue casualties. However, there are not sufficient medical assets to accomplish the evacuation mission, requiring assistance from the supported units.

(3) Air ambulances equipped with the rescue hoist may be able to evacuate casualties from the roofs of buildings or to insert medical personnel where they are needed. The vulnerability to sniper fire must be considered and weighed against probable success of the evacuation mission. Also, pilots must be familiar with overflying built-up areas and the atmospheric conditions they may encounter. Air ambulances can also be used at secured ambulance exchange points to hasten evacuation time.

(4) An ambulance shuttle system with collecting points, ambulance exchange points (AXPs), and relay points must be established. The battalion aid station may be located in a park or sports arena within the city's boundaries, or outside the built-up area. In either case, the existence of rubble and other obstructions hamper the mobility and accessibility of the treatment element. By establishing an ambulance shuttle system, the distance required to carry casualties by litter teams is shortened. This also allows personnel familiar with the area to remain in that area and to continue their search, rescue, recovery, and evacuation mission. By predesignating collecting points, soldiers who are wounded but still ambulatory can walk to these points, hastening the evacuation effort.

(5) The area of communications presents one of the biggest obstacles to casualty evacuation. Due to the terrain, line of sight radios are not effective. Also, individual soldiers normally do not have access to radios. Therefore, when wounded within a building, a soldier may be difficult to find and evacuate. The unit SOP should contain alternate forms of communications such as colored panels or other forms of markers that can be displayed

to hasten rescue when the battle is over. Also, a systematic search of the area after the battle may be required to recover casualties.

d. The use of local medical facilities, hospitals, professional medical help, and medical supplies may be available during combat in large built-up areas. The commander must adhere to the guidelines established within the theater as to when and how these facilities can be used. If civilians are wounded in the battalion area, the commander is responsible for providing them aid and protection without disrupting military operations. A commander cannot confiscate civilian medical supplies unless he makes provisions to provide adequate replacements if civilians are wounded.

e. The commander is responsible for the evacuation of deceased personnel to the nearest mortuary affairs collection point, whether they are US, allied, enemy, or civilian. (See FMs 10-63 and 10-497 for specific information on the handling of deceased personnel.) Some general considerations for the handling of deceased personnel include:

(1) The Theater commander is the approval authority for hasty burial.

(2) The deceased person's personal effects must remain with the body to assist in the identification of the body and to facilitate shipment of personal effects to the next of kin. Retention of personal items is considered looting and is, therefore, punishable by UCMJ.

(3) When operating under NBC conditions, the bodies of deceased personnel should be decontaminated before removal from contaminated areas to prevent further contamination and casualties.

(4) Care must be exercised when handling deceased personnel. Improper handling of deceased personnel can result in a significant decrease in unit and civilian morale.

7-5. PERSONNEL SERVICES

Timely and accurate personnel services are just as important during combat in built-up areas as in any other operation. The close, intense, isolated fighting places great stress on the soldier.

a. The S1 plans for all personnel services that support and sustain the morale and fighting spirit of the battalion. Among the most important of these services are:

- Religious support.
- Postal services
- Awards and decorations.
- Rest and recuperation.
- Replacement operations.
- Strength accounting.
- Casualty reporting.
- Finance support.
- Legal support and services.
- Public Affairs activities.

b. A unit may lose a battle if it allows civilians to steal or destroy its equipment. Even friendly civilians may steal supplies or furnish intelligence to the enemy. Civilians should be evacuated, if possible, to prevent pilferage,

sabotage, and espionage. Control of the civilian population is normally provided by military police and civil affairs units. Collection points for noncombatants are established in rear areas. The S1 is the battalion's link to the population control programs of the higher command.

Section II. LEGAL ASPECTS OF COMBAT

Commanders must be well educated in the legal aspects of combat in built-up areas that include the control of large groups of civilians, the protection of key facilities, and civil affairs operations.

7-6. CIVILIAN IMPACT IN THE BATTLE AREA

The presence of large concentrations of civilians can greatly impede tactical operations. Civilians attempting to escape from the battle area may have the following impact on military operations.

a. **Mobility.** Fleeing civilians, attempting to escape over roads, can block military movement. Commanders should plan routes to be used by civilians and should seek the assistance of the civil police in traffic control.

b. **Firepower.** The presence of civilians can restrict the use of potential firepower available to a commander. Areas maybe designated no-fire areas to prevent civilian casualties. Other areas maybe limited to small-arms fire and grenades with prohibitions on air strikes, artillery, mortars, and flame. Target acquisition and the direction of fire missions are complicated by the requirement for positive target identification. Detailed guidance on the use of firepower in the presence of civilians is published by the division G3. In the absence of guidance, the general rules of the law of the land warfare apply.

c. **Security.** Security should be increased to preclude:

- Civilians being used as cover by enemy forces or agents.
- Civilians wandering around defensive areas.
- Pilferage of equipment.
- Sabotage.

d. **Obstacle Employment.** The presence of local civilians and movement of refugees influence the location and type of obstacles that may be employed. Minefields may not be allowed on designated refugee routes or, if allowed, must be guarded until the passage of refugees is completed. Booby traps and flame obstacles cannot be emplaced until civilians are evacuated.

7-7. COMMAND AUTHORITY

The limits of authority of commanders at all levels over civilian government officials and the civilian populace must be established and understood. A commander must have that degree of authority necessary to accomplish his mission. However, the host government's responsibility for its populace and territory can affect the commander's authority in civil-military matters. In less secure areas, where the host government may be only partly effective, the commander may be called upon to assume greater responsibility for the safety and well being of the civilian populace.

7-8. SOURCE UTILIZATION

Operations in highly populated areas require the diversion of men, time, equipment, and supplies to accomplish humanitarian tasks. If host government agencies collapse, the impact on military resources could be substantial.

7-9. HEALTH AND WELFARE

The disruption of civilian health and sanitary services sharply increases the risk of disease among both civilian and military personnel.

7-10. LAW AND ORDER

The host government may not be able to control mobs. US forces may have to augment civilian forces to protect life and property and to restore order. US forces may also have to secure vital government facilities for the host nation. (For more information on how to control civilians violating civil law, see FM 9-15.)

7-11. PUBLIC AFFAIRS OFFICER AND MEDIA RELATIONS

The best way to relate the Army's story is through the media. While free access to units in the field is desirable, operational security, existing guidelines, and or rules of engagement considerations take the first priority. All members of the media visiting the field should have an escort officer. This officer may be detailed from line units due to the shortage of trained public affairs personnel. Ensuring the media follows the established guidelines or rules of engagement will help prevent negative publicity that could jeopardize the operation or US national objectives. If operations permit, the battalion should also appoint a representative to serve as a point of contact with the local population to deal with their concerns (usually maneuver damage).

7-12. CIVIL AFFAIRS UNITS AND PSYCHOLOGICAL OPERATIONS

Civil affairs units and psychological operations have prominent and essential roles in MOUT. They are critical force multipliers that can save lives. The battle in urban terrain is won through effective military operations, but PSYOP and CA can make that victory more easily attained. In an ideal setting, PSYOP and CA offer the possibility of victory in an urban setting without the destruction, suffering, and horror of battle. They should be included in any study of MOUT. Civil affairs units are normally placed in support of units to assist and conduct CA operations.

a. The primary responsibility of the S5 (Civil-Military Operations) in MOUT is to coordinate activities necessary or the evacuation of civilians from the battle area. This is accomplished in two separate but supporting actions.

(1) CA personnel coordinate with the military police and local police officials for evacuation planning. They plan for establishing evacuation routes and thoroughfare crossing control, and for removing civilians from the military supply routes (MSRs).

(2) CA personnel coordinate with US Army PSYOP assets, local government officials, radio and television stations, newspapers, and so on, to publicize the evacuation plan.

b. The civil military operations officer also has the responsibility to advise the commander concerning his legal and moral obligations to the

civilian population. This requirement can be fulfilled by CA assets conducting coordination for the health and well being of civilians. It can include the reestablishment of water systems; distribution of available food stocks, clothing, and medical supplies; and establishment of displaced persons, refugee, and evacuee (DPRE) camps.

c. If the civil government is not functioning because of battlefield devastation, it is the commander's responsibility to conduct evacuation planning and to provide for the well being of the civilian population. He must do this with only those internal assets available. Because of foreign sovereignty and the utilization of all available host nation assets, this should only be used as a last resort.

d. Tactical PSYOP in support of MOUT operations are planned and conducted in combat areas to achieve immediate and short-term objectives. PSYOP are an integral and coordinated part of the overall tactical plan. They provide the tactical commander with a system that can weaken the enemy soldier's will to fight, thereby reducing his combat effectiveness. They can also help prevent civilian interference with military operations. PSYOP are designed to exploit individual and group weaknesses.

e. Psychological operations units provide support in MOUT using television, radio, posters, leaflets, and loudspeakers to disseminate propaganda and information. Television, including video tapes, is one of the most effective media for persuasion. It offers many advantages for PSYOP and is appropriate for use in a limited, general, or cold war. In areas where television is not common, receivers maybe distributed to public facilities and selected individuals.

NOTE: See FM 51-5 and FM 41-10 for further discussion on civil affairs.

7-13. PROVOST MARSHAL

The provost marshal recommends measures required to control civilians and directs military police activities in support of refugee control operations. The provost marshal coordinates his activities with the staff sections and supporting units in the area. Refugee control operations are the responsibility of the G5 or S5, host nation authorities, or both. MPs assist, direct, or deny the movement of civilians whose location, direction of movement, or actions may hinder operations. The host nation government is responsible for identifying routes for the safe movement of refugees out of an area of operations.

NOTE: Other military police responsibilities, regarding civil affairs and civilian control, are contained in FM 19-1.

7-14. COMMANDER'S LEGAL AUTHORITY AND RESPONSIBILITIES

Commanders and leaders at all levels are responsible for protecting civilians and their property to the maximum extent allowed by military operations. Looting, vandalism, and brutal treatment of civilians are strictly prohibited, and individuals who commit such acts should be severely punished. Civilians, and their religions and customs, must be treated with respect. Women must be especially protected against any form of abuse. In urban fighting, however, some situations are not quite so explicit as the above rules imply. Discussed herein are those civilian-military confrontations most common in

built-up areas and how an infantry commander might manage them to legally accomplish his mission.

a. **Control Measures.** Commanders may enforce control measures to conduct operations, maintain security, or ensure the safety and well-being of the civilians.

(1) *Curfew.* A commander with the mission of defending a town could establish a curfew to maintain security or to aid in control of military traffic. However, a curfew would not be legal if imposed strictly as punishment.

(2) *Evacuation.* A commander can require civilians to evacuate towns or buildings if the purpose of the evacuation is to use the town or building for imperative military purposes, to enhance security, or to safeguard those civilians being evacuated. If a commander takes this action, he must specify and safeguard the evacuation route. Food, clothing, and sanitary facilities should be provided at the destination until the evacuees can care for themselves.

(3) *Forced labor.* The Geneva Accords prohibit the use of civilians in combat. However, they may be used before the battle reaches the city. Guidelines for use of civilian labor should be published by the division G5. The commander may force civilians over 18 years of age to work if the work does not oblige them to take part in military operations. Permitted jobs include maintenance of public utilities as long as those utilities are not used in the general conduct of the war. Jobs can also include services to local population such as care of the wounded and burial. Civilians can also be forced to help evacuate and care for military wounded, as long as doing so does not involve any physical danger. Prohibited jobs include digging entrenchments, constructing fortifications, transporting supplies or ammunition, or acting as guards. Volunteer civilians can be employed in such work.

b. **Civilian Resistance Groups.** Another situation that commanders might encounter is combat with a civilian resistance group.

(1) Civilians accompanying their armed forces with an identity card authorizing them to do so, are treated as PWs when captured—for example, civilian members of military aircraft crews, war correspondents, supply contractors, and members of labor units or of service organizations responsible for the welfare of the armed forces.

(2) Civilians of a nonoccupying territory who take up arms against an invading enemy without time to form regular armed forces; wear a fixed, distinctive insignia that can be seen at a distance; carry their weapons openly; and operate according to the rules and customs of warfare are treated as PWs when captured. Other civilians who provide assistance to such groups may not be entitled to status as combatants, depending upon whether they are actually members of the resistance group. They are normally best treated as combatants until a higher authority determines their status.

(3) Armed civilian groups that do not meet the criteria of a legal resistance (civilians accompanying their armed forces and *levee en masse*) or individuals caught in the act of sabotage, terrorism, or espionage are not legal combatants. If captured, they must be considered criminals under the provisions of the law of land warfare. They should be detained in a facility separate from EPWs and should be quickly transferred to the military police. Reprisals, mass punishments, taking of hostages, corporal punishment, pillage, or destruction of property are prohibited punishments.

(4) The law of land warfare lets a commander control the civil population under the conditions already described using his own resources. However, language and cultural differences between US and foreign personnel make it good practice to use native authorities, such as the police, for such purposes. Use of the police does not relieve a commander of his responsibility to safeguard civilians in his area.

c. Protection of Property. Like civilian personnel, civilian buildings and towns normally have a protected status—for example, they are not legal targets. Buildings and towns lose their protected status if authorities determine that the enemy is using them for military purposes. If doubt exists as to whether a town or building is defended, that doubt should be settled by reconnaissance—not by fire.

(1) If the enemy is using a building or a portion of the town for military purposes—for example, as a supply point or a strongpoint—that building or that portion of the town is a legal target. Before engaging the target, the commander must decide if the bombardment of the target is necessary. Only such destruction as is required for military purposes is justified.

(2) Normally, religious, historical, and cultural objects and buildings are not legal targets. They are sometimes marked with symbols to signify cultural objects. Medical facilities are protected under the internationally recognized Red Cross, Red Crescent, Red Lion, or Red Star of David symbols. The fact that such symbols are absent does not relieve a commander of his responsibility to protect objects he recognizes as having religious, cultural, medical, or historical value.

(3) The misuse of such objects by the enemy is grounds to disregard their protected status. Whenever possible, a demand should be made for the enemy to stop his misuse of the protected object within a reasonable time. If an enemy forward observer uses a church for an OP, for example, a commander would be justified in destroying it immediately, because a delay would allow the enemy to continue the misuse of the church. If a religious shrine was used as a telephone switchboard, a warning would be appropriate, since it would take some time to dismantle the wires. Once the decision to call fires on those objects is reached, destruction should be limited to the least necessary to neutralize the enemy installations.

(4) The destruction, demolition, or military use of other buildings is permitted under the law of land warfare, if required by clear military necessity. Thus, destroying a house to obtain a better field of fire would be a legal act—destroying it as a reprisal would not be. Likewise, firing on any houses that are occupied or defended by an enemy force is legal.