

UNITED STATES MARINE CORPS  
Marine Corps University  
Corporals Noncommissioned Officers Program

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## STUDENT HANDOUT

### Urban Warfare

LESSON PURPOSE: The purpose of this period of instruction is to give the student a better understanding of the concept of Modern Urban Warfare as it applies to the Marine in the theater of operations.

### OUTLINE

1. MILITARY OPERATIONS ON URBANIZED TERRAIN (MOUT): Defined as all military actions planned and conducted on a topographical complex and its adjacent terrain where manmade construction is the dominant feature. It includes combat in cities, which is that portion of MOUT involving house-to-house and street-by-street fighting in towns and cities.
  
2. THE MARINE CORPS ROLE IN URBAN WARFARE: In the past two decades, MAGTFs ranging in size from Marine Expeditionary Forces (MEFs) (Saudi Arabia, Desert Shield/Desert Storm; Somalia, Restore Hope) through Marine expeditionary units (MEUs) (Beirut, Lebanon; Grenada, Urgent Fury; Somalia, Eastern Exit and Restore Hope) have participated in MOUT. The task-organization and combined-arms aspect of the MAGTF makes it well suited for combat on urbanized terrain.
  - a. The results of geographical studies show that 60 percent of politically significant urban areas outside allied or former Warsaw Pact territory are located along or within 25 miles of a coastline; 75 percent are within 150 miles; 87 percent are within 300 miles; 95 percent are within 600 miles; and all are within 800 miles. The Marine Corps will continue to play a prominent role in future evacuations of U.S. citizens, as well as the conduct of peace, counterinsurgency, and contingency operations centered on urbanized areas.
  
  - b. Today's Marine air-ground task forces (MAGTFs) are deployed as part of naval expeditionary forces (NEFs) that maintain a global forward presence for rapid crisis response. Therefore, Marines may find themselves rapidly deployed and employed in actions across the spectrum of military operations. Many of these trouble spots will likely be located in or around large urban centers.
  
  - c. In the years since World War II, the United States has employed military force more than 200 times. Of these, four out of five involved naval forces, and the majority of the naval efforts included Marines embarked in amphibious ships. The reasons are straightforward: availability and

adaptability. Availability derives from the loiter time of forward deployed forces embarked on amphibious shipping. Adaptability comes from the Marine Corps' MAGTF organization, doctrine, training, and equipment, which prepare us for expeditionary missions from the sea in support of a variety of missions, including forcible entry. Enhancing our adaptability are the maritime prepositioning forces (MPFs).

3. DISTINGUISHING FEATURES OF URBANIZED TERRAIN: Urbanized terrain is a complex and challenging environment. It possesses all of the characteristics of the natural landscape, coupled with manmade construction, resulting in an incredibly complicated and fluid environment that influences the conduct of military operations in unique ways.

a. Cities: Cities are centers of finance, politics, transportation, communication, industry, and culture. They generally have large population concentrations ranging from tens of thousands to millions of people. Because of their psychological, political, or logistical value, control of cities have often been the scenes of pitched battles.

b. Multiple Avenues of Approach: Urbanized terrain is a unique battlespace that provides both attacker and defender with numerous and varied avenues of approach and fields of fire. The urban battlespace is divided into four basic levels: building, street, subterranean, and air.

(1) Building Level: Buildings provide cover and concealment; limit or increase fields of observation and fire; and canalize, restrict, or block movement of forces, especially mechanized forces.

(2) Street Level: While streets provide the means for rapid advance or withdrawal, forces moving along streets are often canalized by buildings and have little space for off-road maneuver. Because they are more difficult to bypass, obstacles on streets in urbanized areas are usually more effective than those on roads in open terrain

(3) Subterranean Level: Subterranean systems are easily overlooked but can be important to the outcome of operations. These areas may be substantial and include subways, sewers, cellars, and utility systems. Both attacker and defender can use subterranean avenues to maneuver to the rear or the flanks of an enemy. These avenues also facilitate the conduct of ambushes, counterattacks, and infiltrations.

(4) Air Level: The air provides another avenue of approach in urbanized areas. Aviation assets can be used for high speed insertion or extraction of troops, supplies, and equipment. While aviation assets are not affected by obstacles on the streets, they are affected by light towers, signs, power lines, and other aerial obstructions. They are also vulnerable to the man-portable surface-to-air missile threat, crew served weapons, and small arms fire.

c. Categories of Built-Up Areas: Built-up areas are generally classified as:

- \* Villages (populations of 3,000 or less)
- \* Strip areas (industrialized zones built along roads connecting towns or cities)
- \* Towns or small cities (populations of up to 100,000 and not part of a major urban complex)

\* Large cities with associated urban sprawl (populations in the millions, covering hundreds of square kilometers).

d. Characteristics of Urbanized Areas: A typical urban area consists of combinations of the city core, commercial ribbon, core periphery, residential sprawl, outlying industrial areas, and outlying high-rise areas. Each of the urban area's regions has distinctive characteristics that may weigh heavily in planning for MOUT. Most urbanized areas resemble the generalized model shown in Figure 0303-1.

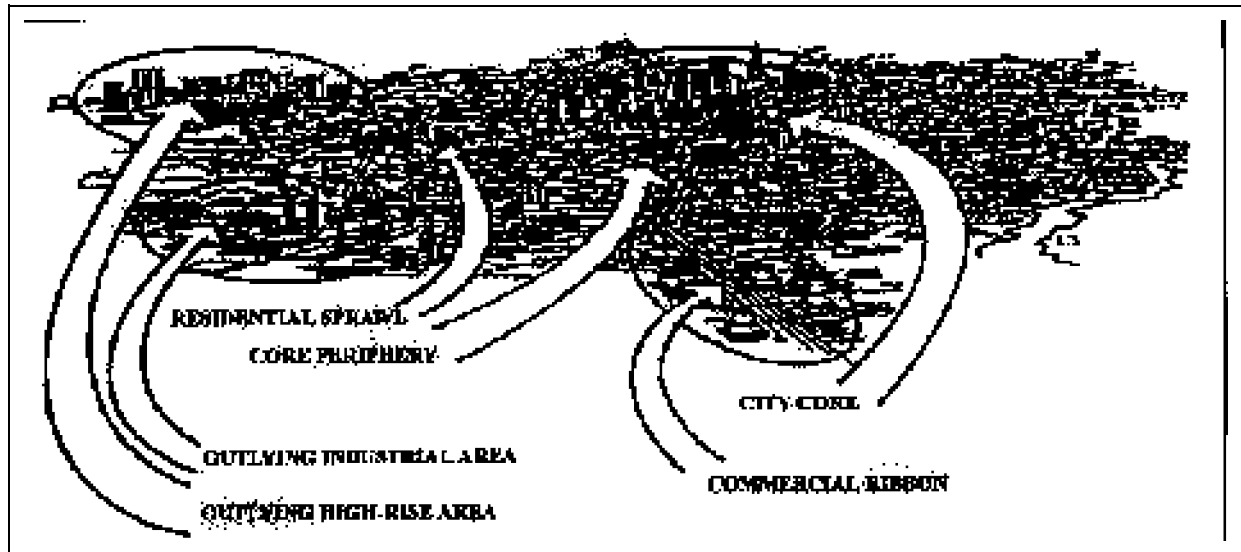


Figure 0303-1. Typical Urban Area

(1) City Core: In most cities, the city core has undergone more recent development than the core periphery. As a result, the two regions are often quite different. Typical city cores are made up of high-rise buildings which vary in height. Modern urban planning for built-up areas allows for more open spaces between buildings than in old city cores or in core peripheries

(2) Commercial Ribbon: Commercial ribbons are composed of rows of stores, shops, and restaurants that are built along both sides of major streets through built-up areas. Typically, such streets are 25 meters wide or more. The buildings in the outer areas are uniformly two to three stories tall—about one story taller than the dwellings on the streets behind them

(3) Core Periphery: The core periphery generally consists of streets 12 - 20 meters wide with continuous fronts of brick or concrete buildings. The building heights are fairly uniform—2 or 3 stories in small towns, 5 to 10 or more stories in large cities .

(4) Residential Sprawl: Residential sprawl areas consist mainly of low houses or apartments that are one to three stories tall. The area is primarily composed of detached dwellings that are usually arranged in irregular patterns along streets, with many smaller open areas between structures.

(5) Outlying Industrial Areas: These areas generally consist of clusters of industrial buildings varying from one to five stories in height. Buildings generally vary dramatically in size and composition. Industrial parks are good examples of this category.

(6) Outlying High-Rise Areas: These areas are similar in composition to city core areas, but may be composed of clusters of more modern multistory high-rise buildings in outlying parts of the city. Building height and size may vary dramatically. Generally, there is more open space between buildings located in the outlying high-rise areas than is found within the city core area.

4. MODERN BATTLES FOR URBANIZED TERRAIN: Geography, politics, and economics dictate that cities will continue to be an objective of armies in warfare. From the armies that invaded and liberated Europe twice during the 20th century, to the forces that fought in Korea and Vietnam, to our most recent urban battles in the Middle East and Southwest Asia, the basic principles of combat in built-up areas have essentially remained unchanged in this century. While the principles remain the same, the introduction of helicopters, fixed-wing aircraft, armor, and precision-guided munitions (PGMs) has altered some of the techniques associated with urban combat. (Refer to appendix A)

5. MODERN URBAN BATTLE ANALYSIS AND OBSERVATIONS: Urban warfare experience has caused us to reevaluate old factors and consider new developments that affect the way we fight in this environment. Factors that have had an impact on the manner in which urban warfare has been conducted are:

a. Intelligence: A review of modern urban battles discloses that the attacker will usually win. Failures to win generally reflect classic military errors not characteristically unique to cities. However, of the battles studied, battles lost were attributed to errors in initial intelligence. The battles of Arnhem and Suez City probably would never have occurred had the attacker known the strength and locations of the defender's forces. (Refer to App A)

b. Surprise: Surprise is a combat multiplier and can substantially reduce the cost of urban warfare. It can be achieved through deception, stealth, and ambiguity. Surprise can be an important asset to increase leverage, but, not necessarily a decisive one. In urban areas, tactical surprise by the attacker can be used to preempt effective defensive preparation of a city.

c. Combined Arms: The MAGTF must capitalize on one of the key means for gaining advantage in maneuver warfare — the use of combined arms. The use of combined arms places the enemy in a dilemma. Any action the enemy takes to avoid one combat arm makes him more vulnerable to another. An analysis of categories of weapons systems found in a MAGTF helps to illustrate it is a warfighting organization well suited for MOUT:

(1) Infantry: Combat in urban areas is primarily a small-unit, infantry intensive operation. Restrictions on maneuver, particularly for mechanized units, increases opportunities for infiltration. Urban combat requires small-unit leadership, initiative, and skill. Infantry units can be

organized, trained and equipped to negotiate urbanized terrain that restricts observation, fields of fire, and mechanized movement.

(2) Armor: Of the 22 battles studied, armor participated in 21. In three-fourths of these battles, organic tank support was a central element when special assault teams were employed. Overall, special assault units supported by tanks were more successful than any other task organization. The use of tanks to the attacker inside a city has been effective only when they were protected by infantry.

(3) Artillery: Artillery has played an important role in most major urban conflicts. At Aachen, U.S. forces combined infantry with antitank teams and artillery (in a direct-fire role) down to the squad and fire team level. Also, artillery firing shells with “delay” fuses in an indirect-fire role were used to penetrate one or more floors before exploding, thus driving the enemy to the ground where infantry and armor could attack. Artillery was also positioned to fire perpendicular to the direction of movement of assaulting forces. Thus, fratricide from artillery range errors was alleviated. Artillery has two distinct roles: outside the built-up area to isolate or prevent isolation with indirect-fire; and within the built-up area to provide direct-fire support. Artillery employed in the indirect-fire role has been effective in disrupting defenders in half of the studied battles.

(4) Mortars: The mortar is the most used indirect-fire weapon in urban combat. The mortar’s high angle of fire allows the round to reach the street level accurately without being masked by surrounding structures. During the battle for Hue city, the most effective fire support provided to Marines was the indirect fire from 60-mm, 81-mm, and 4.2-inch mortars. Approximately 20,000 rounds of high explosive (HE) 60-mm and 81-mm mortar ammunition were expended during the battle. (Refer to app A)

(5) Antiaircraft Artillery: Antiaircraft artillery (AAA) was extremely useful in a ground fire role in some urban battles. AAA has been used more frequently in more recent events, but against buildings rather than people. The high rates of fire of modern AAA make it excellent in terms of shock and destructive potential. However, ammunition supply can be a problem because the volume of fire.

(6) Aviation: Historically, aviation assets have played an important role in helping to isolate the objective and to interdict the flow of the defender’s supplies and reinforcements. However, aviation has been relatively ineffective when not used in conjunction with ground forces. In future urban warfare, aviation will be even more effective due to advances in fixed- and rotary-wing aircraft, unmanned aerial vehicles, precision guided munitions, improved munitions, communications, sensors, and targeting systems. Battle studies already indicate a trend toward more extensive aviation participation in MOUT.

d. Combat Forces: Whether attacking or defending, the size of the force relative to the enemy can be critical to success. When provided with adequate forces, the attacker can isolate and encircle the defender and prevent a breakout or linkup. The defender can use them to create a mobile defense or to create strong reserves for counterattacks.

e. Special Assault Teams: In these battle studies, “shock units” or “special assault teams” have been used by attackers (and often by defenders) with great success. These organizations were characterized by the integration of combined arms at the battalion level and below. Assault teams typically contained infantry with various combinations of armor, artillery, and engineers.

f. Time: In most cases, successful conclusion of an urban battle took two to three times longer than the initial estimates. This often had adverse affects on the overall campaign. Well-planned urban defense, even if the defender is isolated or lacking in aviation, armor, or artillery weapons, can be time consuming to the attacker. Time can allow the defender to reorganize, redeploy, or marshal resources in other areas.

g. Isolation: The attacker won all urban battles where the defender was totally isolated. Even the partial isolation of the defenders resulted in attackers enjoying a success rate of 80 percent. Conversely, attackers won only 50 percent of the battles in which defenders were not significantly isolated, and those victories came at great cost.

h. Cost: The cost of conducting urban warfare is relative to the percentage of total expended resources, the time elapsed, and the results achieved. The cost to the attacker was considered high in the majority of urban battles. A high cost does not necessarily imply that the results were not worth the price. The attacker and defender must thoroughly evaluate the overall cost prior to committing to an urban battle.

i. Rules of Engagement (ROE): The nature of the military operation may restrict our use of weapons. The majority of urban battles since 1967 have had one or more of the following restrictions imposed on the attacking force:

(1) Minimizing civilian casualties and/or collateral destruction in order to:

- \* Avoiding alienation of the local population
- \* Reducing the risk of adverse world or domestic opinion
- \* Preserving facilities for future use
- \* Preserving cultural facilities and grounds.

(2) Limiting the use of specific ground or air weapons.

j. Logistics: Timely combat service support, particularly in the areas of ammunition resupply and casualty treatment and evacuation, is a critical element in MOUT.

(1) Logistics Support: Historically, combat in urban environments has seen a dramatic increase in the amounts of Class IV (shoring, sandbags, concertina wire), Class V (ammunition), and Class VIII (medical material). Unique items, such as rope, grappling hooks, and ladders are required for operations on urbanized terrain. Intense close-quarter combat requires a continuous flow of ammunition, particularly small-arms, tank, antitank, mortar, and artillery ammunition, as



well as mines, grenades, and demolition explosives. Medical supplies must be readily available to treat the anticipated increase in casualties.

(2) Health Service Support (HSS): Responsive treatment and evacuation plans should be established to handle the expected increase in casualties, both physical and mental. Immediate treatment and evacuation are critical in maintaining the morale and confidence of forces engaged in urban warfare.

6. IMPLICATIONS OF URBAN WARFARE: The commander charged with making decisions needs to understand the operational and strategic implications of a tactical struggle in an urban area. Three urban battles illustrate the importance of seeing beyond the tactical nature of the battle.

a. The battle for Stalingrad had major operational and strategic implications. The entanglement of German forces at Stalingrad bought time for the Soviets to mobilize and prevent a major combined effort of two German Army Groups in the south. While Stalingrad resulted operationally in the destruction of the German Sixth Army, the strategic results were even greater. Stalingrad caused a complete change of German strategy in the east. Hitler made major changes in his General Staff, and from this point on in the war, he was a man estranged from his military leadership. The loss of enough men and equipment to field one-fourth of the German Army shook the foundations of the Third Reich.

b. The Battle for Hue, although only one of over one hundred different attacks of the Tet Offensive of 1968, had a negative impact on the will of both the American people and their political leadership. Hue marked a revolution in the coverage of war by modern mass media. It was the first time Americans could and watch an ongoing battle from their living room on the evening news. Hue was a television bonanza for almost a month. When North Vietnamese leadership directed that Hue be held for at least seven days, it was clearly not their intent to win a tactical battle, but to strike at the strategic center of gravity—in this case, the will of the American people. Although the battle for Hue was a tactical victory for the U.S., the North Vietnamese had achieved their strategic goal of making the American public question the costs associated with the war.

c. During the battle of Beirut II, the IDF's objective was to drive the PLO from Lebanon. The ability of the PLO to leverage the media to gain an advantage was one of the most significant weapons in their arsenal. Despite an Israeli tactical victory, the costs in image, prestige, allies, and, most importantly, its own national will were enormous. The results of this battle eventually caused a change of political leadership at the highest levels of government.

7. KEY INSIGHTS: Consideration of these key insights are required in order to effectively and efficiently plan and execute MOUT:

- a. MOUT is infantry intensive.
- b. A tactical battle may have far-reaching implications, creating the situation where tactical actions can have operational and possibly strategic repercussions

- c. Commanders at all levels must understand the impact that media representation will have on the accomplishment of operational and strategic objectives.
- d. Maneuver warfare doctrine must be applied to the environment.
- e. Intelligence is imperative to success in urban warfare.
- f. Surprise is a combat multiplier.
- g. Armor, artillery, and aviation are effective at the outer perimeter of built-up areas for causing isolation or preventing reinforcement.
- h. Armor operating inside a built-up area must be protected by infantry.
- i. Artillery providing direct fire inside a built-up area can be effective in the reduction of strong points.
- j. As force ratio increases in favor of the attacker, combat duration decreases.
- k. Urban warfare is time consuming.
- l. Isolation of an urban defender ultimately ensures his defeat.
- m. Attack of an urban area is costly to the attacker in terms of resources and casualties.

8. NECESSITY FOR PREPARATION: Since MAGTFs are usually forward-deployed forces, it is inevitable that MAGTFs will be tasked to deploy to urban areas and conduct military operations. Fighting in this environment will be violent, close, and personal. Fighting in villages, towns, and cities are likely to become more frequent for military forces as the United States responds to global crises. Marines may soon find themselves operating in the conceptual “three block battlefield” within a city grid: feeding refugees in one block, separating combatants in the adjoining block, and returning hostile fire in a third block.

REFERENCES: Marine Corps Warfighting Publication (MCWP) 3-35.3, Chap 1 Urban Warfare  
Marine Corps Reference Publication (MCRP) 5-2A Operational Terms and Graphics  
1987 Study Modern Experience in City Combat by Abbot Associates  
Marine Corps Doctrinal Publication (MCDP) 1-3 Tactics  
Marine Corps Doctrinal Publication (MCDP) 4  
Marine Corps Doctrinal Publication (MCDP) 1-1 Strategy  
Marine Corps Doctrinal Publication (MCDP) 1-2 Campaigning



## APPENDIX A

Twenty one modern urban battles are discussed to illustrate the trends, dominant factors, and principles of combat in urbanized areas. (The majority of this material is extracted from the 1987 study, *Modern Experience in City Combat*, produced by Abbott Associates.)

A brief description of each battle is provided to illustrate that battle's significance.

1. Stalingrad (1942 - 1943): The tenacious Soviet defense of Stalingrad cost the attacking Germans dearly in every way and set up conditions for a decisive counteroffensive. This classic urban battle involved large forces and resulted in innovative urban combat techniques and the creation of the highly successful storm groups (task-organized assault units). (Length of battle: greater than 30 days) (Casualties: 1,630,000+)

2. Ortona (1943): In this Italian town, determined resistance by a battalion of the elite German 3rd Parachute Regiment against Canadian Army attackers demonstrated the difficulty of overcoming a well-prepared defense. The Canadians were unfamiliar with urban combat and had to develop urban fighting techniques during the battle. After the town was largely destroyed and the defender had extracted a high cost in time and casualties from Canadian forces, the German parachute battalion withdrew. (Length of battle: 6 - 13 days) (Casualties: estimated in the hundreds)

3. Aachen (1944): The battle for Aachen, Germany, in the fall of 1944 developed during the U.S. First Army's offensive to breach the Westwall fortifications and the vaunted Siegfried Line. Aachen, the ancient capital of Charlemagne, had symbolic political and psychological significance to both the Germans and Americans. Furthermore, it was the first city on German soil to face an assault by the Allies. This first major battle on German soil foreshadowed bitter resistance against the American attackers in subsequent battles. The German defenders surrendered only after the city was destroyed. Although the U.S. Army had achieved a clear tactical victory, the German defense of Aachen cost the U.S. First Army valuable time and delayed the planned attack to the Rhine river. (Length of battle: 14 - 30 days) (Casualties: 8,000+) Military Operations on Urbanized Terrain

1-9 Aachen Manila Arnhem Ortona Ashrafiyeh Quang Tri City I Ban Me Thuot Quang Tri City II Beirut Port/Hotel (I) Seoul Beirut 1982 (II) Sidon Berlin Stalingrad Cherbourg Suez City Hue Tel Zaatar Jerusalem Tyre Khorramshahr Zahle

4. Arnhem (1944): On September 17, 1944, Operation Market-Garden, the largest airborne operation in history, was launched in the Netherlands. The plan was to land three airborne divisions to seize key bridges along a 100-kilometer-long corridor through which allied mechanized forces would pass as the first step in the final offensive into Germany. The British 1st Airborne Division made a surprise landing near the Dutch city of Arnhem in order to seize a bridge over the Rhine river for advancing British forces. An unexpected German armor force counterattacked and eliminated all footholds, virtually destroying the British division before a linkup could occur. (Length of battle: 6 - 13 days) (Casualties: estimated in the thousands)

5. Cherbourg (1944): By June 17, 1944, U.S. forces advancing toward Cherbourg from the Normandy beachhead succeeded in cutting off defending German forces in the Cotentin Peninsula. Four German divisions withdrew to a perimeter surrounding Cherbourg. After much fighting, particularly in strongpoints outside the city, the German garrison surrendered to the Americans. Unfortunately for the Americans, the port facilities were destroyed which denied their early use by Allied forces. (Length of battle: 6 - 13 days) (Casualties: estimated in the thousands)
6. Berlin (1945): The long, bloody Soviet offensive to seize the German capital city effectively concluded the last battle of World War II in Europe. Bitter fighting occurred, but the defense was never well coordinated due in part to poor preparation by the Germans. (Length of battle: 14 - 30 days) (Casualties: estimated in the thousands)
7. Manila (1945): Japanese Army troops evacuated Manila under pressure from advancing American forces, but the local Japanese naval commander independently decided to hold the city at all costs. Despite defending Manila with poorly trained and equipped personnel, the determined resistance resulted in a high number of casualties to attacking U.S. forces as well as the destruction of the city and much of its population. (Length of battle: 14 - 30 days) (Casualties: 22,000+)
8. Seoul (1950): Following the Inchon landing, U.S. and Republic of Korea (ROK) forces recaptured the South Korean capital from the North Koreans. The fighting was unusual in that combat was largely centered on seizure of street barricades rather than buildings. (Length of battle: 6 - 13 days) (Casualties: Marines, 2,383; others, estimated in the thousands)
9. Jerusalem (1967): Israeli forces seized Jerusalem in a well prepared and well executed operation. Despite an uncoordinated Jordanian defense, Israeli casualties in this battle were the highest of those encountered during the Six Day War. Regular Jordanian forces withdrew during the latter stages of the battle, effectively ending organized resistance. (Length of battle: 48 hours to 5 days) (Casualties: Israeli forces, 400+; Jordanian forces, estimated in the hundreds)
10. Hue (1968): On January 31, 1968, the North Vietnamese Army (NVA) and Viet Cong (VC) forces launched their Tet Offensive at targets throughout South Vietnam. As part of this operation, two NVA/VC regiments and two sapper battalions conducted a surprise attack and seized part of the walled city (Citadel) of Hue. The NVA/VC held this part of the walled city for about three weeks against determined U.S. and South Vietnamese forces before finally succumbing. The battle for Hue is considered one of the most intense and savage battles of the Vietnam War. (Length of battle: 14 - 30 days) (Casualties: Marines, 433; others, 5000+)
11. Quang Tri City I and II (1972): An objective of the North Vietnamese 1972 winter-spring offensive was the capture of Quang Tri, the northernmost major city in South Vietnam. The NVA overwhelmed the Army, Republic of Vietnam (ARVN) defenders (I). Later, the city was recaptured (II) by a smaller ARVN force using extensive artillery and air support. The large conventional forces involved on both sides made Quang Tri I and II the major urban battles of the Vietnam War. (Length of battle: Quang Tri I, 6 - 13 days; Quang Tri II, 30 days or greater) (Casualties: battles combined, 30,000+)

12. Suez City (1973): Israeli Defense Forces (IDF) attempted to seize this Egyptian city before the anticipated United Nations (U.N.) cease-fire to end the Yom Kippur War. IDF armored shock tactics led to disaster against a well-prepared Egyptian defense. High casualties forced the IDF to withdraw. (Length of battle: less than 24 hours) (Casualties: Israeli forces, estimated 100 - 500; others, unknown)
13. Ban Me Thuot (1975): This South Vietnamese highlands town was the first strategic city to fall in the final North Vietnamese general offensive in 1975 South Vietnamese forces were surprised and overwhelmed. The fall of Ban Me Thuot resulted in a rout that the North Vietnamese exploited to achieve total victory in Vietnam. (Length of battle: 24 - 48 hours) (Casualties: estimated in the hundreds)
14. Beirut I (1976): When the Lebanese civil war broke out in the spring of 1975, combat in the capital city of Beirut assumed a central role. The battle for Beirut I was a series of small, local operations between largely irregular Christian and Muslim forces fighting over control of the hotel and port districts. Combat was not decisive, but led to changes in the boundary, called the "Green Line." This separated the antagonists and led to the stagnation of the Lebanese conflict. (Length of battle: greater than 30 days) (Casualties: estimated in the hundreds)
15. Tel Zaatar (1976): Lebanese Christian attackers encircled and methodically besieged this Palestinian camp before overcoming its defenders with a final assault. (Length of battle: greater than 30 days) (Casualties: estimated in the hundreds)
16. Ashrafiyeh (1978): The Syrian forces occupying portions of Lebanon faced a complex political situation in which the power of the Christian militia was seen as a clear threat to stability. In an attempt to weaken the Christian militia by an attack on their center of power, the Syrians laid siege to the Christian militia stronghold of East Beirut (Ashrafiyeh). This urban battle was essentially an artillery bombardment without air attacks. Syria failed to break the will of the defenders and final positions remained unchanged. (Length of battle: greater than 30 days) (Casualties: estimated in the hundreds)
17. Khorramshahr (1980): Iranian regular forces initially evacuated this port city in the face of an Iraqi offensive. Irregular Iranian forces, however, continued to fight. They offered prolonged resistance and inflicted heavy casualties. Iraq eventually won this battle, but at a high cost in time and resources that ultimately served to halt the entire offensive against Iran. The intensity of fighting during the battle for Khorramshahr earned the city the nickname, "City of Blood." (Length of battle: 14 - 30 days) (Casualties: Iraqi, 3,000 - 9,000; Iranian, estimated in the thousands)
18. Zahle (1981): Syria laid siege to the Lebanese regular forces and militia in this key crossroads town. Fighting was inconclusive and ended in a negotiated settlement whereby the Lebanese defenders evacuated the town. (Length of battle: greater than 30 days) (Casualties: estimated in the hundreds)

19. Beirut II (1982): The siege of Beirut culminated the Israeli campaign to evict the Palestine Liberation Organization (PLO) from Lebanon. Fighting under domestic and world political pressures, the IDF besieged the PLO, selectively applying heavy ground and air firepower in conjunction with psychological warfare and limited-objective ground operations. The fighting resulted in a negotiated PLO evacuation from the city. (Length of battle: greater than 30 days) (Casualties: 2,300+)

20. Sidon (1982): Israeli forces easily seized this PLO southern headquarters during the invasion of Lebanon. The IDF was fully prepared for major urban combat using lessons learned from earlier battles, but resistance was unexpectedly light as PLO forces had largely withdrawn from the city. (Length of battle: 48 hours to 5 days) (Casualties: unknown)

21. Tyre (1982): The Israeli attack on the PLO in this Lebanese coastal city was well planned, with excellent intelligence on the target. All branches of the IDF participated in an operation that included naval fire support and amphibious landings. PLO resistance was uncoordinated and easily overcome. (Length of battle: 48 hours to 5 days) (Casualties: Israeli forces, 120+; others unknown)