Hot Guns in the City

Artillery in Urban Warfare

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"I'd rather wake up in the middle of nowhere than in any city on earth."

-Steve McQueen[1]

For most of human history, wars have been won and lost in cities. The large, set-piece battles of the Napoleonic era and the trenchline stalemates of World War I are but a blip in the history of warfare. The wars of the future will revert to the historical norm of urban fighting, though they will look quite different. The urban battles of old were sieges of capital or other important cities where, once the walls were breached, victory belonged to the attackers. Little fighting took place within city limits, "The primary purpose of artillery was to create a breach in the surrounding wall."[2] That is not the case in modern history, nor will it be in the future. The modern urban battle takes place on the streets, among the civilian population, and much of the most treasured cultural landmarks of a nation. The modern urban battle thus brings many challenges: collateral damage concerns, both to persons and property, an oftentimes confusing landscape, and massive political implications. Urban warfare takes place among the entire spectrum of conflict, from Total War, in which the complete destruction of a city is possible as the assessed military necessity will often outweigh the possible collateral damage concerns, to Humanitarian Assistance and Disaster Relief operations, in which conflict is likely to be restricted to actions by small groups looking to take advantage of a tenuous situation. This paper will be a necessarily brief overview of the use of artillery in urban warfare and will focus on

[1] "LIFE with Steve McQueen: Rare Photos of the King of Cool, 1963," LIFE, accessed March 5, 2026, https://www.life.com/people/life-with-steve-mcqueen-photos-of-the-king-of-cool-in-1963.
[2] Louis A. DiMarco, *Concrete Hell* (Osprey Publishing, 2012), 20.

offensive urban warfare as the offence is a much more difficult undertaking than the defence, as we will see.

Urban warfare carries massive political implications. Most of the world's population lives in urban areas,[3] and cities are typically centres of gravity that hold cultural and political significance to their populations. The Battle of Stalingrad is perhaps the most obvious example of a battle in which the political situation outweighed almost any other factor in the conduct of the battle. Both Hitler and Stalin were willing to send every last soldier into the city, Hitler to capture, Stalin to retain the "city which bore Stalin's name."[4] The inherent political nature of urban warfare means it will be more closely scrutinized and controlled by higher levels of authority than may be the case in open-terrain battles. Historical approaches vary on how best to employ artillery considering the political challenges, namely collateral damage, ranging from an outright ban on its use to an outright disregard for collateral damage.

The modern urban battlefield has universal characteristics that apply to most, if not all, of the urban battles in modern history. One such characteristic is that of the defender's advantage. The Modern Warfare Institute details eight rules of urban warfare,[5] seven of which describe advantages the defender retains. Urban terrain reduces an attacker's advantages in intelligence, surveillance, and reconnaissance (ISR), the utility of aerial assets, and the ability to engage from distance. The defender can see and engage an attacker before the attacker can do the same due to limited cover and concealment on the approach to an urban area. Buildings can serve as fortified

[3] "68% of the world population projected to live in urban areas by 2050, says UN," United Nations Department of Economic and Social Affairs, accessed March 4, 2026, https://www.un.org/uk/desa/68-world-population-projected-live-urban-areas-2050-says-un#:~:text=According%20to%20the%20United%20Nations%2C%2055%25%20of,**Africa**%2013%25%20of%20the%20world's%20urban%20population.

[4] Antony Beevor, *Stalingrad* (Penguin Books, 1998), 124.

[5] John Spencer, "Eight Rules of Urban Warfare and Why We Must Work to Change Them," *Modern War Institute,* January 12, 2021, https://mwi.westpoint.edu/the-eight-rules-of-urban-warfare-and-why-we-must-work-to-change-them.

bunkers for the defenders, requiring the attacker to use explosive force to penetrate them. The defender maintains relative freedom of manoeuvre, further facilitated by the use of the underground and a likely advantage in familiarity with the terrain. Defending in an urban area also reduces the numerical superiority that the attacking forces may have once enjoyed. Over 100,000 attackers were required to retake Mosul from an estimated 3,000 – 12,000 defenders,[6] a ratio of approximately 30:1 to 8:1, much more than the standard peer-on-peer manoeuvre warfare doctrine ratio of 3:1 attackers to defenders.

The attackers in an urban operation must first prevent supplies and reinforcements from entering the city. Therefore, the attackers must isolate the city before they can attack into it, effectively turning each urban operation into a siege followed by an attack into the streets. The siege portion is where artillery power has historically been used and where it has been most effective,

> *"Field artillery plays an important role in developing the initial phases of an urban operation. It shapes the initial phase of a siege, enabling attacking forces to isolate and turn the city into a noncontiguous area of operations for the defender."*[7]

From the earliest siege battles, artillery was the tool that breached city walls and thus delivered victory. From Greek catapults and Roman ballistae to cannons, howitzers, and rocket artillery.

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[6] John Spencer and Jayson Geroux, "Urban Warfare Project Case Study #2 - Mosul," *Modern War Institute,* September 15, 2021, https://mwi.westpoint.edu/urban-warfare-project-case-study-2-battle-of-mosul.
[7] Alexander Grinberg, "Glass Cannons from Grozny to Mariupol," *Modern War Institute,* February 13, 2023, https://mwi.westpoint.edu/glass-cannons-from-grozny-to-mariupol-what-should-the-us-military-learn-from-russias-use-of-artillery-in-protracted-urban-sieges.

Once a city has been effectively isolated an attack can commence within it. This phase of battle carries the highest number of question marks regarding the employment of artillery firepower. The highest levels of strategy must be distilled into detailed orders concerning when and where artillery can be used. For example, if government or strategic-level army leadership is unwilling to risk civilian casualties at all costs, artillery will likely be barred from effects within city limits. Manoeuvre forces will have to proceed without the subliminal security blanket provided by artillery firepower in open-terrain battle, let alone the effects themselves. If, however, tolerance for collateral damage is higher, or the city has been evacuated beforehand, that sense of security returns to the attackers and equally demoralizes the defenders, illustrating the ability of artillery to be as much a psychological weapon as a physical one, as in Stalingrad,

> *"They found artillery fire far more frightening in a city. The shellburst itself was not the only danger. Whenever a tall building was hit, shrapnel and masonry showered from above,"*[8]

and in Aachen,

> *"To increase the fire support to the infantry, both American battalions brought forward 155mm self-propelled artillery guns. These proved to be incredible psychological weapons as well as being capable of bringing down a multistory apartment building with a single round. In some cases just the threat of using the artillery gun on a position was sufficient to induce the Germans to surrender."*[9]

[8] Beevor, *Stalingrad,* 141.
[9] DiMarco, *Concrete Hell,* 61.

Within the urban confines, artillery can also provide some indirect advantages. The Americans in Aachen during WWII used artillery not necessarily to destroy targets but to enable the movement of manoeuvre forces to "close with and destroy the enemy,"[10] allowing them to get close to buildings or bunkers while the defenders took cover.[11]

While artillery fire is undoubtedly effective within the confines of the urban terrain, the city must remain isolated for the duration of the battle in order to continue to prevent supplies and reinforcements from entering the battle on the defending side. In this sense, as the battle progresses, artillery shifts from a tactical-bordering-operational-level asset to an operational- and perhaps borderline strategic-level asset as it is used in the deep fight rather than in direct support of manoeuvre forces in the battle on the streets.[12] The Soviets realized their artillery was more useful behind the German front lines during the Battle of Stalingrad (where any sensible study of modern urban warfare must start), so they targeted German lines of communication and, more importantly, German troops forming up for an attack, "Whenever a German troop concentration was spotted, and the target coordinates passed back to the batteries…the volume of fire was devastating."[13]

The Germans followed their typical pattern of attack in Stalingrad as had worked in other battles: an aerial bombardment courtesy of the Luftwaffe, followed by an artillery barrage, followed by an advance of combined arms infantry and panzer elements.[14] One of the most effective responses by the Soviets to the aerial and artillery bombardments was the tactic of

[10] "Infanteer," Canadian Armed Forces, accessed March 5, 2026, https://forces.ca/en/career/infanteer.
[11] DiMarco, *Concrete Hell,* 63.
[12] Grinberg, "Glass Cannons from Grozny to Mariupol."
[13] Beevor, *Stalingrad,* 152.
[14] DiMarco, *Concrete Hell,* 40.

"hugging" in which Soviet forces would maintain as close a distance as possible to the German attackers so as to make the bombardments minimally effective and risk friendly fire.[15,16] The Chechens used a similar tactic in the Battle of Grozny starting in 1994 in response to the massive advantages the attacking Russians had in artillery and close air support.[17] The Russians preceded infantry strikes with artillery bombardments with little regard for the destruction of infrastructure and civilian casualties.

The most obvious solution to most of the problems, especially that of collateral damage, arising from the use of artillery in an urban context, is to use precision-guided munitions (PGMs). These weapons allow for near pinpoint accuracy and thus appear to solve issues of collateral damage and fortified defences, but do they really? Retired U.S. Army Lieutenant-Colonel Amos Fox describes a "precision paradox" in which precision weapons are only effective as a first-strike capability in an urban environment.[18] If an attacker, hamstrung by the fear of collateral damage, is not sufficiently decisive when using PGMs, they create a situation in which an attack may weaken defences but will have little impact on the forces within those defences. In this case, defenders will simply move to another position and the cycle repeats itself. The inevitable conclusion is that artillery and other PGM delivery systems effectively destroy a city, and although each individual strike may have minimized collateral damage, the minimization itself engenders a requirement for further strikes.

Therefore, PGMs are an effective use of artillery firepower only if a commander uses them in a manner in which the targeted forces are effectively eliminated from the battle upon the

[15] DiMarco, *Concrete Hell,* 40-41.
[16] Beevor, *Stalingrad,* 141.
[17] Olga Oliker, *Russia's Chechen Wars 1994-2000* (RAND, 2001), 20.
[18] Amos Fox, "Precision Paradox and Myths of Precision Strike in Modern Armed Conflict," *The RUSI Journal* 169, no. 1-2 (2024): 62-74, doi:10.1080/03071847.2024.2343717.

first strike. Depending on the situation on the ground, this may limit the overall range of artillery use cases. It may only be approved for high-priority targets such as snipers or centres of command and control, with the obvious implication that there must therefore be a detailed high-priority target list (HPTL) disseminated to every level. The HPTL defines which targets can be engaged with artillery fire and in which order they are to be engaged. Due to limitations on an attacker's ISR capabilities, many of these high-priority target locations will remain unknown prior to the battle. Extensive planning is required to be able to respond quickly to the discovery of these locations by forces on the ground. A fireplan map is the simplest solution in this case, in which important buildings, intersections, and other features are identified and given target numbers with available strike data computed beforehand.[19] This allows manoeuvre forces to quickly relay the locations of high-priority targets and enables a quick response and delivery of artillery.

HPTLs are also important for ensuring attacking forces are not baited by defenders. In an urban setting, defenders can shape a battle to trigger artillery strikes from the attackers. The intent of this tactic is to expose the locations of the attacking force's artillery positions, with minimal losses to the defenders, in order to conduct counter-battery strikes,

> "*Urban warfare creates an environment where an outgunned defender can disproportionally target and destroy the attacker's artillery. A siege encourages the defender to bait the attacker's fire support. Defenders can establish sensor zones such as "critical friendly zones" over areas where the defending commanders expect the attacker to employ fires."*[20]

[19] DiMarco, *Concrete Hell,* 59.
[20] Grinberg, "Glass Cannons from Grozny to Mariupol."

Obviously, this tactic is only relevant if the defenders have a counter-battery capability, which would be the case in any peer-on-peer conflict but may or may not be true in the case of an insurgent defender. PGMs and HPTLs are only among the more obvious possible solutions to some of the problems of offensive urban warfare. More creative solutions will be necessary for future urban battles and their inception must begin sooner rather than later.

The urban battle is tough enough as it is; unpreparedness will only exacerbate its difficulty. As the likely future of warfare, the urban terrain must be given its due respect and be a focus of training and doctrinal development, not an afterthought or a "nice-to-have." Urban warfare poses unique challenges for attacking forces. Historical study, dedicated training, and some ingenuity are required to ensure successful battle outcomes, both in a strictly military sense and a larger national-strategic sense. This paper barely outlines the inherent complexity of urban warfare and is intended merely as a launching point for further, more in-depth study of the subject and its implications for the artillery. As one of the more complicated settings for battle, it is imperative that urban warfare be taken seriously to ensure readiness before its undertaking.

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