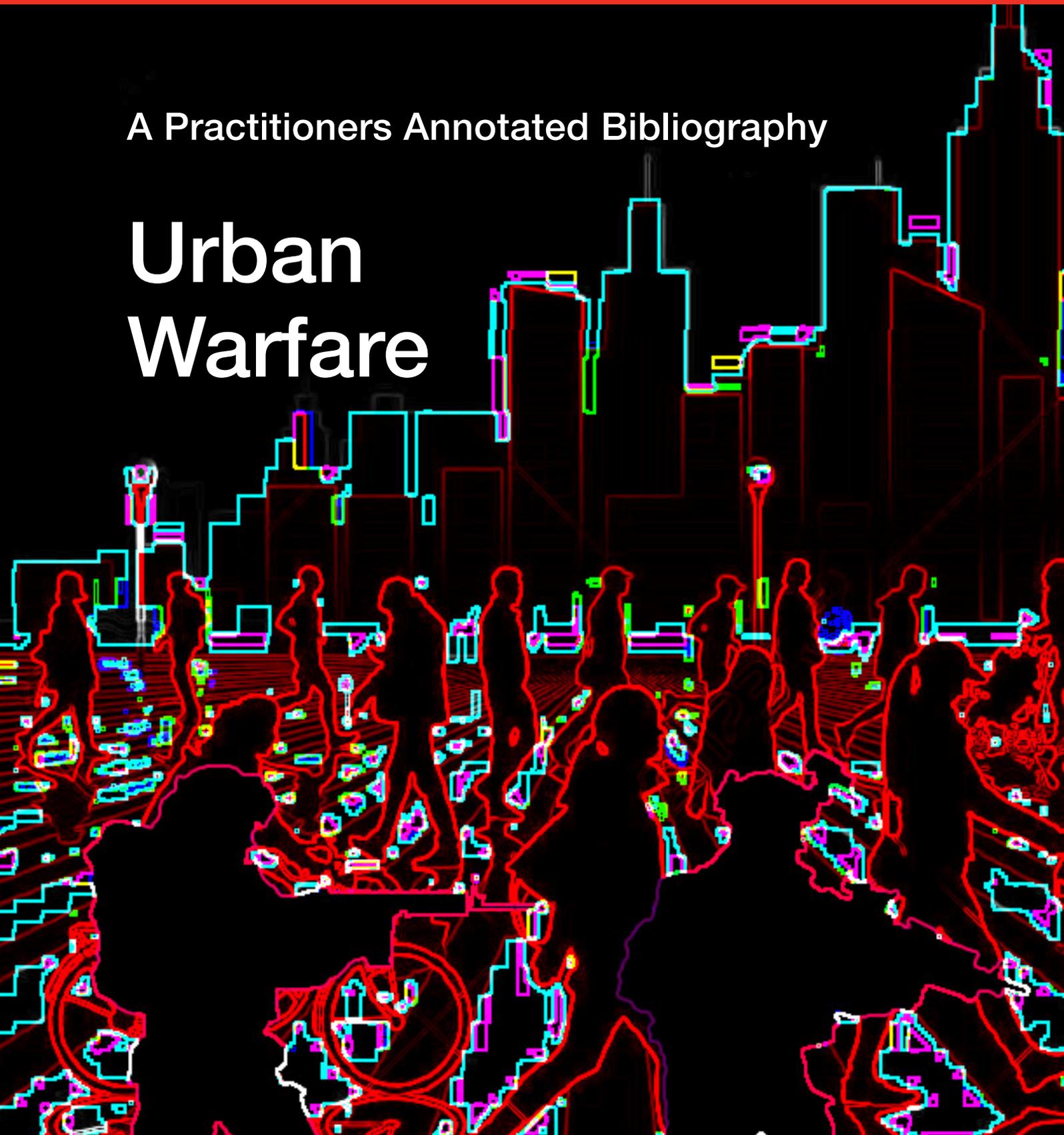




**Australian Army  
Research Centre**

A Practitioners Annotated Bibliography

# Urban Warfare





**Australian Army  
Research Centre**

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# **Urban Warfare**

**A Practitioners Annotated Bibliography**

*Serving our Nation*

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This bibliography is the work of a small team of reservists working for the Australian Army Research Centre. Almost all the reviews, of which there are over five hundred, were written by GNR Dan Kealy, with collation, document management and the cover image by CAPT Vytas Kabaila. The Editor is LTCOL Charles Knight, who provided the photographs.

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## FOREWORD

*“Progress, far from consisting in change, depends on retentiveness. When change is absolute there remains no being to improve and no direction is set for possible improvement: and when experience is not retained, as among savages, infancy is perpetual. Those who cannot remember the past are condemned to repeat it.” George Santayana 1905*

Every few decades a generation of soldiers learns the ‘lessons’ of urban warfare the hard way. Yet it seems that those lessons disappear from the institutional memories of their armies. The experienced, tough Filipino soldiers who marched directly from fighting Communist guerrillas in the jungle into battle on the streets of Marawi in 2017 were, by their own admission, unprepared to fight in and around buildings. They learned. One discovery was that to advance along open streets covered by fire was death. They report having ‘innovated’. To progress they knocked holes in walls.

Yet such innovation is but ‘discovery’ of a forgotten basic technique. Manual breaching of walls to avoid being shot on the street is recorded as long ago as 15th century Castile. It was ‘discovered’ in 1846 by the US troops who were being shot down by the Mexican army on the streets of Monterrey. It was ‘discovered’ by General Radetzky’s troops on the streets of Milan two years later. The pattern of bloody re-discovery goes on: by the Bavarians slaughtered by French Marines in Bazeilles in 1870, the Japanese in the alleyways of Shanghai in 1937, the Canadians at Ortona in 1943 and after World War II in places as far afield as Beirut, Jaffna or Khorramshahr.

There are other ‘innovations’ that are rediscovered, applied and taught in wartime while urban battles remain an immediate prospect. Then in times of peace, while some tactics and techniques survive the culling as doctrine is superseded, they are decreasingly practised in training and may eventually fade from corporate knowledge. Examples include the use of: instant smoke or constructed physical screens to fully conceal movement; breaching with small arms fire; explosive charges on poles, through-wall/floor/ceiling engagement; improvised ladders to attack through upper levels or across roofs and employing direct fire artillery at close range. Each of these ‘lost’ techniques were needed again in Marawi in 2017, and they re-emerged during that five-month battle.

This ‘forgetting’ of proven fighting techniques is mirrored by the discarding of proven fighting machines without replacement. The classes of heavily armoured self-propelled guns and engineering vehicles that enabled progress with limited casualties on the streets of Europe in World War II have long since left service without replacement. Soldiers may be exposed to the basics of urban operations in training, but they typically practice their craft in rural or jungle terrain. For cost and risk avoidance reasons, urban training facilities tend to be small and not represent the destruction, hazards and clutter of an urban battlefield. Will leaders once again find themselves tactically, technically or psychologically unready for urban combat? The US Marine Corps officers tasked to eject the North Vietnamese from the streets of Hue in 1968 skimmed old pamphlets in the hours before battle. Yet to be better educated on urban war is a challenge. Professionals who would follow the advice of Napoleon - “know your manoeuvres” or Suvorov - “study unceasingly”, have few prominent sources to turn to. The practical military neglect of urban war reflects a theoretical aversion. In 1973, SLA Marshal noted;

*“We run into a curious void in the literature of warfare. Those practitioners of the art who were also its ablest theorists, scholars and writers dwelt on its varied aspects to the limit of their imaginations. One thing, however, they did not touch upon -- combat where life is centred. Run through the list of writers and their works -Frederick, de Saxe, Clausewitz, Jomini, Kuropatkin, Bernhardt, Henderson, Foch, Fuller, Hart, et al. Not one has anything to say about military operations within or against the city.*

Fortunately, there are accessible resources for those who would understand urban warfare. While the great military thinkers looked elsewhere, veterans and a thoughtful cohort of practitioners remembered, examined the record, reflected or pondered. Their writing is a trove of insights, methods and potential lessons. Its value can only increase if urban warfare is becoming more likely and more difficult, as almost all analysts suggest.

This annotated collection is for those who will fight the next war - and those who support, train and equip them. It offers readers the chance to follow Bismarck's advice to "learn from the mistakes of others" and mentally prepare for an urban fight.

LTCOL Charles Knight PhD

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## INTRODUCTION

This bibliography primarily addresses urban war - a subset of urban operations - with its focus on the lethal kinetic fight that leaders since Sun Tzu have tried to avoid. The working definition is “military operations for political ends between organised forces that are expected to involve substantial fatalities”<sup>1</sup> (after Singer and Small) concentrated in space and time, firepower greater than individual small arms and amongst concentrations of structures that sustain and protect human populations. This narrow focus is partly philosophical. The nature of the physical fight on streets and amongst solid buildings has changed only slowly and incrementally since the first employment of rapid firing weapons and high explosives. Conversely, the political and human context of urban operations, more widely understood, has changed frequently and substantially, and information technologies are accelerating this process. The past is therefore probably a better guide to the kinetic aspects of war. The other reason for this focus is practical. The boundaries of urban operations writ large are too wide and diffuse to cover deeply in a single document.

Focus does not mean exclusion, and war defined by kinetic intensity may occur in the context of less warlike military operations, as General Krulak’s concept of the ‘three Block War’ portrays. He envisaged relief operations on one block, policing operations on another and high intensity combat on a third adjacent. This collection therefore extends, for example, into realms such as counterinsurgency, yet it concentrates on intense kinetic urban operations in that context.

### Online publications

This is a collated collection of accessible documents relevant to the urban fight. Importantly it includes many older examples that might otherwise be overlooked and tend to not appear in online searches. In some sub-topics the selection is comprehensive. In others, online availability or space considerations make it simply representative. The organisation of the publications can be seen from the contents list above and is further explained below. For each document there is a short review and a set of keywords, which together will allow a researcher to identify the material most likely to be relevant. Most existing urban warfare bibliographies, especially annotated ones, such as that by DeMarco (Oxford University) focus on a few tens of important books. Unfortunately, these books are often not quickly or easily available. Practicality dictates that this collection is almost entirely comprised of reports, articles and theses that are immediately available online, for which it provides links. If these links cease to work, the documents should remain discoverable through the descriptive information provided, which should also allow libraries to assist if necessary. A small number of particularly interesting documents are not directly available, but database links or relevant contacts are provided.

### Document structure

This bibliography is structured from the general to the specific, and from the higher-level politico-strategic through the operational to the tactical and technical - as can be seen from the topic headings shown table of contents above. However, it is also laid out for ease of access, beginning with a substantial *General and Broad Works* section containing documents that are likely to be initially or frequently required, while often-sought specific studies of *Cases, Theatres and Battles* are placed at the far end of the bibliography, organised geographically. Because of their strong association with different theatres of war, *National Approaches and Doctrine* articles are located just before this in the penultimate position. Readers should note that because this structure is designed to be applicable to other future bibliographies, some of the approximately 20 sections are relatively sparse, while conversely some are heavily populated.

1 After Singer and Small’s ‘Correlates of War’ researcher’s definition, but without the strict empirical threshold of 1000 casualties per year.

## An overview of content

The following paragraphs sketch the nature, scope and scale of the content within the sections that appear in the table of contents and explains some of the logic of selection and organisation. The starting point for most readers, unless they have a query that is addressed by one of the headings in the table of contents, will be *General and Broad Works*. This is divided into subsections that cover increasingly demanding reading, beginning with *Short Introductions* that provides synopses of between two and sixteen pages long and suitable for quick orientation. The following *Substantial Overviews* are similarly wide in scope but much more detailed. The next subsection, *Reviewing Urban Challenges and Issues*, assembles documents where the dominant theme is the challenge or problem of urban operations, usually presented in objective terms. More partisan works are offered in the subsection *Proposals, Perspectives and Debate* which begins with papers from Spencer, Betz and Stanford-Tuck that contest the key question of whether the city is a neutral combat environment and then includes works that contest established paradigms or promote alternatives. Further subsections then cover themes of *Hybrid War* and *Megacities* before shifting to a 'people focus' and issues such as crime, state fragility, feral and tribal cities in *Populations, Urbanisation and Human Terrain*. A representative selection of empirical works is gathered under Theory and Analysis and the first section is concluded with *Critical Perspectives*. Urban practitioners should be aware of and alert to the implications of these latter alternative political narratives, especially the 'military urbanism' critique of the militarisation of the urban environment.

While, as discussed, individual case studies are organised geographically, this does not suit documents that cover multiple battles. The important second section, *Multi-Case Analysis and Anthologies*, first gathers in one place those studies that examine or compare different battles, and then covers anthologies consisting of discrete parts that either also deal with different battles or, alternatively, different urban warfare issues. In the case of the latter, the reviews adopt a slightly expanded format to briefly describe what each chapter covers. *Geopolitics, Politics and Strategy* is a short section that presents the sparse literature that places urban warfare into a politico-strategic context, including some further critical academic viewpoints. The much larger section *Operational Level Conduct and Planning* is organised to help the researcher by first looking at operational art and command and control generally before a subsection that offers *Models and Constructs*, another that presents different operational *Proposed Approaches* and finally one with several papers that apply *Systems Approaches* to urban operations.

The fifth section, *Geography, Infrastructure and Subterranea* focuses on the physical environment with subsections covering each of the different topics in the title, while the section *Capability and Enabling Concepts* is focused on where particular technologies offer new approaches, for example how Israeli wall breaching techniques enable manoeuvre on very dense terrain. The following three sections are short. *Scientific Modelling* is limited to three representative examples of computer data processing to draw insights about the nature of urban combat, noting that while there is a substantial body of such work, most is too technically specialised, or classified, for inclusion here. *Intrastate, Guerrilla Warfare, Counter-Insurgency, Counter-Terrorism* presents a selection of half a dozen papers from the substantial literature of unconventional warfare including Carlos Marighella's classic mini-manual. Researchers focused on these topics should note that many of the case studies later in this bibliography concern battles in a COIN context. *Joint, Littoral, Amphibious and Airmobile* offers articles that address the urban fight launched or supported from the sea.

The substantial tenth section *Legal, Humanitarian, ROE and Ethical* seeks to offer the reader a solid selection of the literature dealing with legal and ethical restraint on military operations. Many of the documents described are from the International Committee of the Red Cross and provide definitive citations. The papers listed in the first subsection offer foundational explanations of *Key IHL Concepts, Application and ROE*. The next subsection covers articles that explore the issue of *Wide Area Explosive Effects* and the diplomatic and NGO initiatives to constrain such weapons, a significant development that might in the future drive alternative specialist urban capabilities. However, the lack of a 'silver bullet' is evident from subsections that deal with the ethics and implications of *Non-lethals* and the related risks and challenges of employing new *Technologies and Precision Weapons*. The final subsection addresses the *Protection of Civilians and Siege*, which, like the use of wide area explosive effects is a realm of shifting humanitarian norms.

Recent urban battles, such as those for Fallujah in 2004 or Marawi in 2017 involved 'soft power' struggles of political narratives that are of strategically equal importance to the kinetic fight. This crucial effect is examined in articles reviewed in the section *Influence, IO, Psyops and Media*. However, while such operations, by their very nature, mainly occur where people are concentrated, soft power (and especially new media) is too large a topic for this bibliography to comprehensively cover. In contrast, within the massive literature of intelligence, there is significant writing focused on the urban, so the section *ISR, Understanding, Analysis and Deception*, is larger and organised in subsections under those various subtopics. The unbalanced content of the *Logistics, Medical and Procurement* section reflects real world availability: plenty of material dealing with combat health and very little on urban logistics. However, it is important to note that many of the case studies do contain information about logistics, as the keywords indicate.

A solid collection of documents examining the employment of different types of capabilities will be found in the section *Joint Effects and Combat Arms*. The subsections on *Airpower, Artillery and Joint Fires and Armour* each offer about 20 articles of varying vintage and national origin, however, and again reflecting the balance in the real world, there are fewer in the subsections dealing with *Infantry and Engineers*. Nevertheless, the subsequent section dealing with *Tactical Techniques and Procedures* and its subsections covering *breaching and weapons effects, anti armour, and fuel-air explosives and flame* largely address any shortfall. The section on *Technologies, Weapons and Communications* is sparse but representative, as is the rather larger following section on *Training and Simulation*. As mentioned above, the penultimate section deals with *National Approaches and Doctrine*. Importantly, it does not include doctrine publications itself, although material is available online especially in the US. Most of the documents concern the US or Russia/USSR, reflecting American sources, however there are samples from Canada, New Zealand and Australia which give a glimpse of possible differences of approach.

The final section, and the largest, contains *Cases, Theatres and Battles* grouped together under 15 separate subsections. The structure combines chronology, convenience and geography to group manageable sets of documents under one heading. Consequently, the first broad groupings are *Pre-1918, Western Europe 1918-1949, Eastern Europe and Eastern Front 1918-1949 and Stalingrad* is followed by the subsection *Former Soviet Territories* which is subdivided into theatres and battles such as *Chechnya and Grozny*. A broader geographic logic applies to subsections covering *Israel the Southern Levant, Jordan and Egypt* before focusing closer still on particular areas such as *Gaza*. In the same way the Middle Eastern operations subsection *Iraq, Syria, Iran, Turkey, Kurdish Areas and Afghanistan* is further subdivided, for example into the reviews under *Wider Iraq Operations* or the large set discussing *Fallujah*. Finally, there are short sections dealing with *Asia, Africa and the Americas*.

LTCOL Charles Knight PhD

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## CAVEAT

The purpose of this bibliography is to assist researchers by collating and reviewing an extensive selection of relatively accessible urban warfare articles. These were all available online, or via online providers, at the time of publication. Over time some links degrade, especially those hosted at sites such as 'academia.edu' or 'ResearchGate'. A web search using the title and author with different search engines is still likely to locate the document.

The Australian Army Research Centre (AARC) have provided the best available convenient links in good faith. Practicality and copyright prevent us hosting original documents. Many links are to overseas servers and most will directly download or offer a simple 'click through'. Several, such as those pointing to the British Army Review hosting page, require locating the relevant master document from a selection. The Department of Defence, the Australian Army, the AARC and its staff cannot accept responsibility for the safety of the links nor for consequences of any kind from downloading using them.



Buildings Destroyed during the 1980's fighting on The Suq el Gharb Ridge above Beirut © CAH Knight

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## GENERAL AND BROAD WORKS

### SHORT INTRODUCTIONS

#### **Urban Warfare Past, Present, Future**

Roberts, Urban Warfare Past, Present, Future, RUSI, 2018.

Click [here](#) for the complete article

**In 2018 the UK's Royal United Service Institute hosted a conference to stimulate discussion about the nature of contemporary urban warfare and of how these operations have changed over time. This is the conference report written by the Institute's Director of Military Sciences.** Summarising the presentations and deliberations of delegates, the author presents thinking on the enduring nature of urban warfare, and then considers what is new to the discussion and opportunities for the future. The conference ranges freely and example outcomes include: the potential of the systems/flows approach to make operations quicker and more exact; the fundamental decisive elements of leadership/warriors/ideas; and the imperative to educate, train, and condition "antifragile" military teams and people. This is a quick, recent, surface overview of current thinking and trends.

Keywords: small team leadership, operations

#### **The Art of Wall: A Different Look at Urban Operations**

Poh, The Art of Wall: A Different Look at Urban Operations, *Pointer*, 2013.

Click [here](#) for the complete article

**This 8-page Singaporean armed forces journal article argues that tactical/technical evolution offers little prospect for solutions to the fundamental challenges of urban operations, and urges instead a deep understanding of the urban operational environment to drive a range of operational/strategic concepts of engagement.** The author defines the environment as the interactions between terrain, populace, and the surrounding space, and draws on myriad and diverse examples to contemplate approaches to these. This is a broad, light, introductory piece which frames the issues effectively with clear graphics.

Keywords: strategy, operations, civil-military

#### **Current Dynamics of Urban Military Operations**

Masuhr, Current Dynamics of Urban Military Operations, *CSS Analyses ETH Zurich*, 2020.

Click [here](#) for the complete article

**This 5-page journal article for a security policy audience offers an overview of current trends and military planning priorities regarding urban combat operations.** The paper considers three recent conflicts - Ukraine, Mosul, and Marawi - to offer insights into the dynamics of urban combat and draws from them commonalities: the intense symbolic importance of cities forcing governments to accept significant material and human cost; the centrality of the civilian population, either as casualties exploited for propaganda or bodies co-opted as human shields or in combat support roles; the force protection versus firepower dilemma; and the improvised nature of much urban combat. The author concludes with an overview of the latest military discourse on the topic, paying particular attention to the Swiss context, and observes that predictions of the growing importance of urban operations can be supported.

Keywords: policy, operations, iraq, philippines, marawi, mosul, ukraine

### **Operational Environment Implications of the Megacity to the US Army**

Ward, Operational Environment Implications of the Megacity to the US Army, *Small Wars Journal*, 2016.

Click [here](#) for the complete article

**This 7-page journal article gives an overview of the characteristics and complexities of the modern megacity, and considers training and technology improvements to enhance operations within them.** The author explains the concepts of drivers and trends in the socio-political, economic, and physical nature of the megacity, and discusses the implications of these for military forces. This is a handy 'soldiers five' on the complexities inherent in the megacity, and will be of use to the trainer.

Keywords: operations, training, civil-military

### **Military Operations in Urban Areas**

Vautravers, Military Operations in Urban Areas, *ICRC*, 2010.

Click [here](#) for the complete article

**This 16-page journal article summarises the contemporary situation of urban military operations and draws examples from a range of conflicts and militaries to illustrate key points.** Writing for a general audience, the author begins with an historical overview of urban conflict, and then explains the characteristics of the modern city and the conditions which may make them a military target. The paper summarises technical and tactical lessons-learned in recent urban operations, examines the military hardware and training adaptations that have resulted, and highlights the vulnerability of civilian populations. This is an accessible overview with informative and diverse examples.

Keywords: operations, combined-arms tactics, infantry tactics, armour tactics, civil-military, ihl

### **Urban Combat: Confronting the Specter**

Grau & Kipp, Urban Combat: Confronting the Specter, *FOREIGN MILITARY STUDIES OFFICE*, 1999.

Click [here](#) for the complete article

**This 13-page journal article presents a 'soldiers five' overview of the nature and complexity of contemporary urban warfare.** Written for a US military audience, the paper charts the historical development of operations in cities, identifies the challenges presented by the rise of the modern mega-city, and presents a range of scenarios which will draw US forces into urban operations. The paper concludes with a discussion of operational and tactical considerations for urban combat, drawing lessons and examples from a range of recent operations. The authors contend that US forces need to immediately prepare for the reality of urban operations so as to avoid their own Grozny, noting grimly that even with the best preparation urban operations are 'combat in hell'. They argue that the spectre needs to be confronted as it is unavoidable. This is an accessible, broad overview of the topic highlighted with examples, and will be of particular interest to the trainer.

Keywords: strategy, operations, tactical, information operations, combined-arms tactics, logistics, chechnya, grozny

### **War in the Urban Jungles**

Kitfield, War in the Urban Jungles, *Air Force Magazine*, 1998.

Click [here](#) for the complete article

**This 5-page magazine article offers an overview of current US Army and Marine attitudes to urban operations, and the initiatives and programs underway to prepare for them.** Writing for a general audience, the author identifies differing perspectives and approaches to urban operations, the USMC Urban

Warrior program, and technology and training initiatives. This is a quick and readable overview of the topic filled with quotable quotes from influential commentators and will be of use to those interested in training.

Keywords: operations, training

## **SUBSTANTIAL OVERVIEWS**

### **Modern Urban Operations: Lessons Learned from Urban Operations from 1980 to the Present**

Modern Urban Operations: Lessons Learned from Urban Operations from 1980 to the Present, *Asymmetric Warfare Group*, US Army, 2016.

Click [here](#) for the complete article.

**Lessons learned from recent urban operations are collated in this 39-page US Army publication which seeks to illuminate best practice for ongoing US operations in Iraq.** The paper presents a summary of lessons in a strategic/operational/tactical/implications format, and expands these points when addressing the specific cases: Northern Ireland (1980-98); the IDF in Lebanon 1981 and 2006; the siege of Sarajevo (1992-95); Mogadishu 1993; Grozny (1994-95, and 1999-2000); Baghdad and Fallujah (2003-4); the Lebanese Armed Forces in the Nahr al-Bared refugee camp, Lebanon, 2007; the Russo/Georgian War 2008; the IDF in the West Bank 2014; the 2nd battle of Donetsk, Ukraine (2014-15); and the continuing fight against IS in Mosul 2016. This is collection of analysis which is referenced for further reading, and offers only the briefest overview of the conflicts.

Keywords: strategy, operations, tactical, chechnya, iraq, israel/palestine, lebanon, russia, ukraine, fallujah, grozny, mosul, somalia, northern ireland, sarajevo, mogadishu, baghdad, nahr al-bared, georgia

### **The Future of Urban Warfare in the Age of Megacities**

Konaev, The Future of Urban Warfare in the Age of Megacities, *IFRI*, 2019.

Click [here](#) for the complete article

**This 58-page research paper examines the patterns and drivers making conflict increasingly prevalent in cities, and analyses the characteristics of urban military operations to explore how they will unfold in the 21st Century.** In a wide-ranging coverage of the topic for policy makers and the general reader, the author discusses growing urbanisation and the historical development of urban conflict before considering the nature of urban operations and the challenges presented by developing demographics, technology and IHL. The paper argues that the future of global security will be decided by what happens in cities, and cautions that military force alone cannot solve multi-dimensional urban problems. This is a readable and up to date overview of the topic with illustrative references to conflicts, theory, demographic data and current operations.

Keywords: political, policy, operations, tactical, humanitarian

### **An Introduction to Urban Operations**

Hart et al, An Introduction to Urban Operations, *TNO*, 2008.

This excellent document is only available by application to TNO Netherlands [info@tno.nl](mailto:info@tno.nl)

**This modestly titled 142-page research paper presents a detailed overview of the characteristics and demands of urban operations, and analyses current doctrine to identify gaps and shortfalls.** Produced for the Netherlands military and policymakers, the paper describes the nature of operations with reference to the physical terrain, civilian population, urban systems, and threat, and examines the key capabilities required of a force engaged in this environment. The authors then critique current national and

international doctrine against these requirements. The paper finds that little specific doctrine exists above the tactical level, and that joint/combined/interagency doctrine is notably absent. This is a comprehensive yet readable paper with informative tables, diagrams and photographs, which will be of interest to the operational planner and the writer of doctrine.

Keywords: doctrine, operations, civic

### **City Without Joy: Urban Military Operations into the 21st Century**

Evans, *City Without Joy: Urban Military Operations into the 21st Century*, Occasional Series, *Australian Defence College*, 2007.

Available from the Australian Defence College via [cdr.enquiries@defence.gov.au](mailto:cdr.enquiries@defence.gov.au)

**This 69-page monograph analyses the historical and contemporary relationship between cities and warfare in order to understand the urban environment as a future battlespace, and recommends how forces can best prepare for operations.** In this paper for the Australian military, the author presents an historical overview of the topic and identifies the characteristics of modern urban warfare. The paper discusses the 'generalist versus specialist' debate regarding urban operations, and advocates the MOUP approach to operations in cities – an inter-agency, multi-disciplinary task force concept of Military Operations as Urban Planning. The author argues that: avoidance of cities will not always be possible; urban training needs to be prioritised; improvements in technology and tactics need to be entrenched; and more sophisticated understandings are required at the strategic and operational level. This is a thought-provoking paper of particular interest to operational planners and writers of concept and doctrine.

Keywords: political, policy, strategy, operations

### **Ready for Armageddon**

Glenn et al, *Ready for Armageddon*, *RAND*, 2002.

Click [here](#) for the complete article

**A 2-day conference for the US military - Non-lethal and Urban Operations - is summarised in this 130-page proceedings paper, which seeks to identify and investigate critical aspects of urban operations to inform decision makers, focusing at the operational level.** The conference covers a range of topics: the effects of urbanisation on military strategy; actions to improve near-term readiness and focus limited capabilities; training militaries for stability ops; coordination of civil and military organisations; and the psychological implications of operating in densely populated areas. The speakers' contributions are synthesised to a series of conference findings/conclusions: cities are systems and parts of systems; urban ops require exceptional mental agility and robustness; the requirement to prepare for psychological fatigue; the imperative for early and realistic ROE; and the primacy of population consideration in training, doctrine, and plans. This is a wide-ranging report, with insights from a broad group of speakers which will be of interest to operational level staff, and includes an appendix of lessons-learned from veterans of Hue 1968.

Keywords: policy, operations, medical support, civil-military, ihl, vietnam, hue

### **Street Smarts: Unconventional Warriors in Contemporary Joint Urban Operations**

Amato, *Street Smarts: Unconventional Warriors in Contemporary Joint Urban Operations*, *Naval Postgraduate School*, 2001.

Click [here](#) for the complete article

**This 99-page US staff college thesis analyses the attributes of SF unconventional warfare practice in relation to the challenges and constraints of urban operations, and advocates for the model as an alternative approach within the urban arena.** The paper dissects the nature of contemporary urban

operations and addresses each characteristic in turn to demonstrate the applicability of the unconventional warfare concept, before presenting a study of US special forces in Bosnia-Herzegovina to highlight the scope of employment of such units to understand, shape and engage in operations. The author argues that low tech, small footprint, culturally engaged units leveraging surrogate forces are ideally suited to countering asymmetrical, urban threats, and concludes with recommendations for doctrinal change to incorporate UW into joint doctrine. This is a well-structured paper offering an alternative approach to the 'superior firepower' paradigm.

Keywords: strategy, doctrine, operations, information operations, civil-military, bosnia

### **Mars Unmasked: The Changing Face of Urban Operations**

Edwards, Mars Unmasked: The Changing Face of Urban Operations, *RAND*, 2000.

Click [here](#) for the complete article

**This 128-page research paper studies three contemporary urban operations - Panama 1989, Somalia 1992-93, and Chechnya 1994-96 - to understand if urban doctrine is keeping pace with political and social changes.** Writing for the US Army, the author examines pre-1980 'lessons learned' which have informed current doctrine, and then uses these more modern case studies to analyse which of these elements have retained relevance, and which have increased in importance. The paper identifies areas of growing importance as: the presence of non-combatants; the presence of media; the balancing of ROE; PsyOps; and political/military strategy and leadership. The author argues presciently that social, technical, and political changes make it imperative that forces pay more attention to the information realm, and offers an extensive discussion of the role of Information Operations in modern urban warfare. This is an influential paper and will be of particular interest to the writer of doctrine.

Keywords: political, strategy, doctrine, operations, information operations, chechnya, somalia, grozny, panama, mogadishu

### **Sharp Corners: Urban Operations at Century's End**

Spiller, Sharp Corners: Urban Operations at Century's End, *CGSC Press*, 2001.

Click [here](#) for the complete article

**Influential military historian Roger Spiller seeks to reframe professional interest in urban conflict and examine its implications for operational art in this 158-page research paper commissioned by the US Army.** The paper begins with an exploration of the nature of cities - their history, dynamism, and development - illuminated with a range of historical perspectives and examples. Next, the history of urban operations is examined for insights to military attitudes and biases which have developed regarding future urban warfare - a reality which 'does not correspond to the age-old self-image soldiers prefer to cultivate'. The paper concludes with consideration of US 'strategic anxiety' regarding cities, propositions regarding the nature of cities and urban operations which need to underlie operational art, and recommendations for the practical implementation of these into the US joint force. This is an oft-quoted, provocative, and confident piece which is essential reading for the urban warrior, planner, and trainer.

Keywords: strategy, doctrine, operations

### **Current MOUT Doctrine Enhanced by Elements of Operational Design - An Imperative for Planning Future Military Operations in Urbanized Terrain**

Hume, Current MOUT Doctrine Enhanced by Elements of Operational Design - An Imperative for Planning Future Military Operations in Urbanized Terrain, *CGSC*, 1999.

Click [here](#) for the complete article

**Centre of gravity and decisive point analysis are brought to bear on outdated MOUT doctrine to increase its utility as a guide for planners developing courses of action in this 62-page staff college monograph.** Writing for the US army, the author examines the current operating environment and the strengths and weaknesses of extant MOUT doctrine. The paper then describes these two operational design elements, and uses them to inform the doctrinal concepts of objective, assault, isolation, and speed. This synthesis is used to analyse two case studies - Grozny (1994-95) and Panama (1989) - to explore whether the concepts were used with effect. Demonstrating the utility of operational design concepts when brought to doctrine and in the field, this paper may be of interest to the trainer.

Keywords: theory, doctrine, operations, tactical, chechnya, grozny, panama

### **Notes on Urban Warfare**

Marshall, Notes on Urban Warfare, *Army Material Systems Analysis Agency*, 1973.

Click [here](#) for the complete article

**In the absence of guidance from the great military theorists, controversial newspaperman/US Army combat historian S.L.A. Marshall offers this 54-page essay on the conduct of urban warfare.**

Writing for the US army, the author offers historical reflection, detailed tactical breakdowns, suggestions for weapons and equipment, commentary on the nature of the urban fight, and consideration of psy-ops and the unpalatable necessity of 'attacks on the civil will'. Marshall was chief US army combat historian during WW2 and Korea, and later mired in scandal for his loose application of research methodology and the questionable veracity of some of his claims. Regardless, this paper speaks to the reality of combat in cities, and intends to stimulate thought as to the nature and methodology of urban war.

Keywords: strategy, tactical, information operations, infantry tactics, armour tactics, artillery employment

## **REVIEWING URBAN CHALLENGES AND ISSUES**

**Urban Warfare Capability: A Background to the Challenges and a Call for Professional Debate**

Knight, Urban Warfare Capability: A Background to the Challenges and a Call for Professional Debate, *Australian Army Journal*, 2019.

Click [here](#) for the complete article

**This 21-page journal article articulates the dilemma of modern urban operations - force protection reliant on firepower incurs increasingly unacceptable levels of non-combatant casualties - and examines reasons for neglect of this crucial quandary while promoting debate on how best to overcome the challenge.** Writing for the Australian Army, the author identifies the limitations imposed by urban terrain which have traditionally been addressed by the 'prophylactic use of high explosive' and explores changing attitudes to civilian casualties. The paper concludes with an addendum positing a range of vulnerabilities with associated questions to stimulate discussion and further publications. The author contends that current capabilities have not solved the basic dilemma, and that the political and military risks associated with significant friendly/civilian casualties warrant the development of additional dedicated urban warfare capabilities. This is a readable overview of the topic which clearly frames the main challenge, and the associated talking points will prove of particular value to trainers and doctrine writers of all levels.

Keywords: policy, operations

### **Operational Challenges in Ground Operations in Urban Areas: An IDF Perspective**

Alon, Operational Challenges in Ground Operations in Urban Areas: An IDF Perspective, Vanderbilt Journal of Transnational Law, 2018.

Click [here](#) for the complete article

### **The military logic of the IDF sending troops into urban areas - and of how they operate once there - is explained in this 26-page journal paper which is intended for a broad, non-military audience.**

Based on a presentation to a LOAC conference in Tel Aviv, 2017, the paper explains why ground forces are often necessary in urban areas in preference to stand-off strikes, reasons including: strategic purposes requiring physical presence, mission types beyond kinetic targeting, the ability to act when intel is unavailable, flexibility, and as a more 'pointed' force for humanitarian considerations. The author elaborates on four major challenges - manoeuvre, subterranean space, civilian presence, and target identification - and concludes with a light summary of how the IDF is responding to these complexities. This is a clear, concise explainer illustrated with images and references to IDF operations.

Keywords: operations targeting, civil-military, ihl, israel/palestine

### **Land Warfare Training and Capability Deficits**

Land Warfare Training and Capability Deficits, Kelly, *British Army Review Special Report-Urban Operations-Volume 2 Winter 2019*, 2016.

Click [here](#) for the complete article

**A British officer considers forces unprepared for urban operations, and identifies a range of training shortcomings in this 15-page article for the British Army Review.** The author contextualises future deployments as time-sensitive, financially restricted, casualty aware operations with a clear end state, and flags shortfalls in: combined arms manoeuvre capability across the whole force; armour identification; infantry tank-killing capacity; urban doctrine; training facilities; counter-IED skills; and SOPs for operating without air superiority. This is a frank assessment calling for a serious commitment to preparing for the urban challenge.

Keywords: doctrine, tactical, combined-arms tactics

### **Why MOUT Now?**

Why MOUT Now?, Desch, *Soldiers in Cities: Military Operations on Urban Terrain*, SSI, 2001.

Click [here](#) for the complete article

**The editor of Soldiers in Cities: Military Operations on Urban Terrain explains the project/conference which gave rise to that compendium, and offers an explanation for the renaissance of US interest in urban operations.** The 15-page paper reviews the standard reasons for MOUT focus - demographics, and the shock of Mogadishu (1993) and Grozny (1994-96), and offers further reasons attributable to the post cold-war environment: a US with no peer must be engaged asymmetrically; an increase in MOOTW due to unleashed ethnic/tribal frictions and a US free to engage in conflicts previously seen as strategically less critical; and an increase in homeland operations. The compendium and its component papers are all available in this bibliography.

Keywords: political, strategy, doctrine

### **Are We Prepared for the Challenge of Future Operations in the Urban Environment?**

Are We Prepared for the Challenge of Future Operations in the Urban Environment?, Barley, British Army Review Special Report-Urban Operations-Volume 1 Winter 2018, 2000.

Click [here](#) for the complete article

**Current British concepts and doctrine regarding emerging urban operations are summarised in this 17-page military journal article.** The author - a serving British officer - provides an overview of the challenges of future warfare, and asserts that the foundational manoeuvrist approach will remain the basis of operations in the absence of any conceptual or technical 'silver bullets'. How this will manifest on the ground is examined, with broad operational options outlined and tactical considerations explored including: close combat and force protection; the control of non-combatants; mobility; capacity for escalation and de-escalation; and complications due to the scale of the city. Capabilities required under a find/fix/strike framework are identified, and applicable findings/base propositions from doctrine command are listed. This is a concise, readable synthesis of current issues and concepts.

Keywords: doctrine, operations

### **Fighting Non-State Actors in a Population Dense Urban Environment: A New-Old Challenge for Militaries**

Fighting Non-State Actors in a Population Dense Urban Environment: A New-Old Challenge for Militaries, Cascone & Sternberg, Countering Terrorism and Urban Warfare, 2018.

Available from an academic library or the author via [here](#)

**This 13-page book chapter summarises the deliberations of a NATO/IDF training course in Israel, 2017, and offers general observations of the threat and operating environment in Lebanon, Gaza, and Mosul (2016-17).** Writing for a western military audience, the authors provide a quick overview of the history of insurgency in cities, and describe tactical/operational considerations for the contemporary commander. The cases are discussed, highlighting innovation and adaption by the non-state urban defender. The paper concludes by identifying the need for a new conceptual framework to address the growing challenge. This is a concise paper whose authors are content to restate the situation.

Keywords: concepts, tactical, iraq, israel/palestine, lebanon, mosul

### **Postcard from Mumbai: Modern Urban Siege**

Sullivan & Elkus, Postcard from Mumbai: Modern urban Siege, *Small Wars Journal*, 2009.

Click [here](#) for the complete article

**This 15-page journal article examines the rise of a new concept in urban warfare - the siege of the city from within - and details how best to confront the challenge and fight for 'the right to the city'.** Writing for a general military and law-enforcement audience the authors chart the development of the siege from WW2 through urban insurgency and into the realm of criminal/terrorist parallel states operating beyond the reach of state power. Mumbai is presented as the exemplar of the 'networked terrorist', coalescing in cyberspace and wielding a methodology of pure terror and network disruption, and the paper argues for a strategic response: fighting for the social as well as material space of the city; full spectrum policing bridging the gap between military and police; and nurturing the goal of sustaining the city as a free and public space. This is a grim read, illuminated with wide-ranging examples from military urbanism to drug gang warfare to Israelis walking through walls, and will be of utility for the trainer.

Keywords: strategy, operations, tactical, cemic, policing, mumbai

### **Re-Examining Tomorrow's Battlefield: Taking the Fight into the Cities**

Jones, Re-Examining Tomorrow's Battlefield: Taking the Fight into the Cities, *Centre for Strategic Leadership US Army War College*, 2003.

Click [here](#) for the complete article

**Jones argues in this 7-page War College paper that the complexities of urban operations are such that a military force cannot be expected to 'do it all', and that an integrated multi-agency approach is necessary to maximise the chances of operational success.** The paper contends the success of the US invasion of Iraq will heighten enemy resolve to seek the asymmetrical advantage offered by the urban environment, discusses the broad range of considerations and requirements for a conventional force combating such a threat, and then identifies the operational contributions other agencies need to make. Citing the 9/11 response as an example of inter-agency failure, Jones argues that doctrine and policy need to move from 'kicking in doors' towards the creation of this 'practical, resourced, and exceedingly well-trained inter-agency fighting force'.

Keywords: political, policy, strategy, doctrine, operations, intelligence support, information operations, cimic

### **War and Urban Terrain in the Twenty-First Century**

Murray, War and Urban Terrain in the 21st Century, *Institute for Defence Analysis*, 2000.

Click [here](#) for the complete article

**This 24-page research paper examines why military operations persist in focusing on cities despite the difficulties of urban operations, and argues that urban terrain is not confined to cities, as evidenced by a series of case studies.** Writing for the US military, the author begins with a summary of urban operations throughout the 20th Century, and uses this to highlight the political and psychological factors contributing to the decision to fight in cities. The paper then offers three case studies - Dieppe 1942, Caen 1944, and the Allied advance through Germany 1945 - as examples of urban warfare conducted outside the major cities. The author argues that politics will force US forces into urban terrain against their better judgement, as cities are the heart of political life and national resistance and 'dominate the geography of the mind'. A wide-ranging, broad view paper which provides illustrative anecdotes and examples of lesser-known conflicts, which will be of particular interest to trainers.

Keywords: political, policy, operations, france, germany, caen, dieppe

### **Military Operations in Urban Terrain: A Survey of Journal Articles**

Worley et al., Military Operations in Urban Terrain: A Survey of Journal Articles, *Institute for Defence Analysis*, 2000.

Click [here](#) for the complete article

**This 107-page research paper summarises the recent literature on urban operations and distils common themes and key findings.** Writing for the US Defence department, the authors summarise 67 journal papers from 20 US journals over the period 1995-2000. The paper then derives a range of findings from the literature including: the inadequacy of current US capability; challenges for ROE, Intel, Coms, and logistics; tactics; and the necessity to train for what will need to be a combined, inter-agency operation. This is a very accessible overview of contemporary commentary, and the one-page summaries of the journal articles are informative and comprehensive.

Keywords: operations, tactical, intelligence support, combined-arms tactics, cimic

### **Urban Warfare and the Urban Warfighter of 2025**

Hahn & Jezior, *Urban Warfare and the Urban Warfighter of 2025*, *Parameters*, 1999.

Click [here](#) for the complete article

**This 14-page journal article is a product of the Army After Next Urban Warfare Project, and envisions a technologically enhanced future soldier wielding high tech weapons systems who can meet the unfolding challenges of urban warfare.** The paper begins with a summary of the challenges of urban operations, and the 2025 Urban Warfighter System is then introduced. The authors explain what the system would look like, describe how this technologically integrated soldier will operate on the battlefield, and then discuss how this system fits with the US Army Imperatives – quality people, leadership development, doctrine, force mix, modern equipment, and training. The authors argue that we are currently fighting tomorrow's battles with yesterday's technology, and that new technologies will fundamentally change the nature of urban warfare. This is a big-picture paper looking to get forces 'ahead of the game' in the urban battlespace.

Keywords: doctrine, operations, tactical, rws, ugv, uav

### **Marching Under Darkening Skies: American Military and the Impending Urban Operations Threat**

Glenn, *Marching Under Darkening Skies: The American Military and the Impending Urban Operations Threat*, *RAND*, 1998.

Click [here](#) for the complete article

### **The readiness of the US Army for modern city-fighting constrained by ROE and requirements for low American/non-combatant casualties is analysed in this 39-page research paper.**

Commissioned by the US Army, the paper reviews literature from active duty officers regarding service readiness, and then examines current urban doctrine, training, and technology to identify shortfalls and make recommendations for improvement. The author concludes that the US is not adequately prepared for the close urban fight, and urges doctrinal review and a more creative and purposeful use of existing training facilities. This is an influential and concise paper from one of the big names in urban warfare literature, and remains relevant for its frank framing of the challenges and contradictions of modern urban combat.

Keywords: policy, doctrine, operations

### **The United States Army's Preparedness to Conduct Urban Combat: A Strategic Priority**

Wood, *The United States Army's Preparedness to Conduct Urban Combat: A Strategic Priority*, *US Army War College*, 1997.

Click [here](#) for the complete article

**This 34-page monograph argues the US Army is unprepared for the demands of low casualty/low collateral damage urban combat and highlights shortfalls while suggesting solutions.** The paper makes a case for the inevitability of urban combat, and analyses current capability and requirements for doctrine, training, organisation, leadership development, and equipment and technology. The author contends the US can no longer 'assume away' the problems of urban operations, and needs to implement a coherent program for capability improvement to address this strategic weakness. This is a readable paper of most interest for its force modernisation consideration of on-the-ground, close-fight demands and requirements.

Keywords: doctrine, operations

### **Combat in Hell: A Consideration of Constrained Urban Warfare**

Glenn, *Combat in Hell: A Consideration of Constrained Urban Warfare*, RAND, 1996.

Click [here](#) for the complete article

**Accepting the premise that future urban combat will be constrained by the need to limit non-combatant casualties and collateral damage, this 65-page research report for the US army identifies the challenges of this reality and makes recommendations to meet them.** The paper is organised under the headings Doctrine, Training, and Equipment, and within each the conditions confronted in this constrained urban combat are described, current capability analysed, and remedies to address shortfalls suggested. The author posits that current WW2 derived doctrine is unsuited to the new context, and argues for a raft of changes and initiatives. This is an influential overview from a persuasive commentator, peppered with operational examples and quotable quotes, and will be of interest to the military planner and the trainer.

Keywords: doctrine, operations, tactical, humanitarian, ihl

### **Urban Operations: Future War**

Milton, *Urban Operations: Future War*, Military Review, 1994.

Click [here](#) for the complete article

**The author of this 10-page military journal article flags urban operations as the new challenge for the post-cold-war US Army, and identifies the spectrum of low-intensity missions as requiring the most development of doctrine, training, and tactics.** The paper considers the requirements of emerging urban operations and draws particular attention to the high numbers of infantry required for high-intensity urban combat. Low-intensity considerations identified include ROE restrictions on FS assets, the shift to a HUMINT intelligence priority, and the premium on marksmanship and infantry tactics. The author argues that Desert Storm was the war the US had trained to fight, but a new mindset is required to take the lead in stability and support operations. This is an influential treatment of the topic, with insights of interest to the trainer.

Keywords: doctrine, operations, tactical, intelligence support, infantry tactics

### **MOUT: The Quiet Imperative**

Mahan, *MOUT: The Quiet Imperative*, *Military Review*, 1984.

Click [here](#) for the complete article

**The preparedness of the US Army for urban combat in a cold war battle for Western Europe is analysed in this 18-page military journal article, with the author identifying substantial shortfalls in attitude, training, and materiel.** The paper reviews current professional interest in MOUT at the time, surveys training facilities and programs, and explores initiatives in MOUT-specific weapons/munitions/equipment before establishing how emerging Soviet and NATO doctrine will drive combat into urban areas. The author argues for the establishment of substantial realistic training facilities, which - in a build-it-and-they-will-come-fashion - will sensitize US career soldiers to the need for greater attention to MOUT. Despite being rooted firmly in the cold-war, this is a considered paper which is well worth the read.

Keywords: policy, strategy, doctrine

## PROPOSALS, PERSPECTIVES AND DEBATE

### **The City Is Not Neutral: Why Urban Warfare Is So Hard**

Spencer, *The City is not Neutral: Why Urban Warfare is so Hard*, Modern War Institute, 2020.

Click [here](#) for the complete article

**This 18-page online paper critiques the 2019 journal article *The City is Neutral: On Urban Warfare in the 21st Century*, arguing that it includes ‘conceptual gaps, inaccurate claims, and as a result, dangerous recommendations.’** The author - an urban warfare academic at West Point - references a range of cases and anecdotes to dispute the premise and propose instead that: the city is not neutral - populations being partisan; urban terrain indeed advantages the defence; urban warfare is the most difficult due to environmental and policy constraints; and that modern urban operations are inherently different to those of the past due to the consequences of civilian casualties, IHL, and networked social media. This is a piece which can be read in isolation as a general primer to the challenges of urban warfare, or in conjunction with the original article as an example of academic discussion of the malleable, interpretive nature of case studies and vignettes. The original article is available with this bibliography.

Keywords: theory, operations, tactical, ihl

### **The City is Neutral: Urban Warfare in the 21st Century**

Betz & Stanford-Tuck, *The City is Neutral: On Urban Warfare in the 21st Century*, *Texas National Security Review*, 2019.

Click [here](#) for the complete article

**This 28-page journal article queries the underlying assumptions of urban operations doctrine, and proposes a new model for the tactical deployment of infantry.** Writing for a military audience, the authors present case studies of the sacking of Jerusalem (70CE) and the British invasion of the River Plate (1806) and examine the validity of the generalisations drawn from the battle for Stalingrad (1942-43). The paper then explores urban training systems, facilities, and protocols from a range of western forces, and proposes the ‘strongest gang’ tactical model – a tempo/pressure/pursuit construct of empowered infantry. The authors argue that there is nothing inherently new or overwhelming about urban operations and that the environment is ‘neutral’ and will reward the best prepared/equipped/trained/supported force displaying the greatest tactical skill. They contend that the epic nature of the Stalingrad battle has given its ‘lessons’ a disproportionate weight in the minds of theorists and doctrine writers. This is a provocative paper which challenges the orthodoxy of contemporary urban warfare thinking, and will be of particular interest to the writer of doctrine.

Keywords: doctrine, operations, tactical, stalingrad

### **In the Jungle of the Cities: Operations in Built-Up Areas**

Jary & Carbuncle, *In the Jungle of the Cities: Operations in Built-Up Areas*, *British Army Review Special Report-Urban Operations-Volume 2 Winter 2019*, 1999.

Click [here](#) for the complete article

**This 5-page journal article for the British Army argues that the flame weapon lessons of WW2 need to be relearned to overcome the current dilemma in evicting a committed enemy - the choice between accepting high troop casualties or completely destroying the urban environment.**

The authors argue that a ‘sensible’ approach to OBUA requires fighting with machines not men, and illustrate this point by describing the British clearance of Bremen 1945 utilising tank-mounted “crocodile” flamethrowers. Present day requirements for this technology are considered, the delivery system discussed,

and flame weapon options explored with possible alternatives - chemical, smoke, and non-lethals. This is a frank, wide ranging paper, which concludes that unless specialist equipment is developed, British forces may have to abandon any idea of fighting a serious enemy in the urban environment.

Keywords: tactical, flame, cw, smokeout, afv fs, wp munitions, smoke munitions

### **Can We Dominate in an Urban Environment**

Lambert, Can We Dominate in an Urban Environment, *Canadian Forces College*, 2018.

Click [here](#) for the complete article

**This 17-page Canadian staff college paper argues that western forces are unable to dominate in the urban environment with current approaches, and that a conceptual shift to a conflict prevention model is a more viable method for achieving strategic outcomes.** The author explores the realities of urbanisation and its implications for military forces, and argues for a re-framing of operations from threat-centric to the 'theory of competitive control'. The paper presents the US failure to ensure security in Baghdad - despite vast expenditure in tech, equipment, and lives - as an example of a failed approach, and urges a comprehensive rethink of urban warfare doctrine incorporating OOTW concepts of governance, economic growth, and service provision. This is a quick, conversation starter from a frank premise.

Keywords: strategy, doctrine, operations

### **The City as a System: Future Conflict and Urban Resilience**

The City as a System: Future Conflict and Urban Resilience, Kilcullen, The Fletcher Forum of World Affairs, 2012.

Click [here](#) for the complete article

**A prediction of the future threat profile and conflict environment is offered in this 21-page journal article, which identifies opportunities for intervention in the systems nature of cities.** The paper envisages the realm of future violence as urban, littoral, and connected, and the future enemy as irregular, hybrid, and 'nested'. These contentions are explained and justified, and implications drawn for militaries and governments. This is a widely-cited article from an influential author, and is well explained using vignettes and graphics.

Keywords: strategy, civil-military

### **Urban Warfare: A Soldier's View**

Scales, Urban Warfare: A Soldier's View, *Military Review*, 2005.

Click [here](#) for the complete article

**In this 10-page journal article, a US Army MAJGEN (retired) argues that in this age of urban warfare the infantry are doing the majority of the work - and suffering the majority of fatalities - and this needs to be reflected in the proportion of defence spending and focus dedicated to this 'small, undemanding, and under-served' group.** Writing for a military audience, the author argues that the vulnerable centre of gravity for the US is 'dead US soldiers' and therefore the welfare of infantry should be the priority of planners and policy makers. The paper finds instead that the infantry are poorly supported, and proceeds to make suggestions on how infantry protection, effectiveness, and lethality could be improved. The author suggests that the conflicts of the future will require the close-in skills of highly trained infantry over the big-spend of navies and air forces, and defence emphasis should reflect this. This is an engaging paper proposing a broad rethink of priorities, and will be of interest to the military planner.

Keywords: force preparation, small team leadership

### **FIBUA: The Tactics of Mistake**

Storr, FIBUA: The Tactics of Mistake, *The British Army Review*, 2002.

Click [here](#) for the complete article

### **Entrenched approaches to urban combat are challenged in this 4-page military journal article, the author arguing that current doctrine and techniques are based on perceptions contrary to evidence.**

Writing for the British Army, the author reviews underlying assumptions - urban combat requires highly centralised, methodical actions utilising high force-to-space ratios, troop densities, and ammunition expenditure - and uses recent military exercises and the lessons of history to argue that this may not be best practice. The paper posits that current doctrine derives from a WW2 experience against a tactically superior German enemy, and that effective urban combat rests instead upon an aggressive counter-attack posture, and small group infiltration and manoeuvre. This is a snappy, well-structured argument which will be of interest to the writer of doctrine and trainer. It is biased towards findings from training scenarios; which involve state-on-state urban combat in low density semi-rural urban areas where it is generally assumed civilians have left the structures.

Keywords: tactical, infantry tactics, infiltration, penetration, strongpoint defence

### **Urban Warfare in the Future: Balancing Our Approach**

Urban Warfare in the Future: Balancing Our Approach, Owen, British Army Review Special Report-Urban Operations-Volume 1 Winter 2018, 2002.

Click [here](#) for the complete article, via British Army Review special report

### **A USAF Colonel writing in the British Army Review challenges fundamental assumptions of current urban warfare discourse, and argues that a neglect of strategic and operational level guidance needs to be remedied.**

The 19-page paper reviews current (US) doctrine, policy, and commentary, to highlight an undue emphasis on tactical level, infantry-based concepts. An alternative view is presented, using dot-point observations to enunciate strategic and operational options to challenge the notion that infantry in the close battle will be the decisive arbiter in urban warfare. The author concludes that the current line of enquiry does not offer a solid foundation of theory and guidance, that urban warfare's predominance in future war is not a given, and that the urban fight will be a truly joint responsibility. This is a readable, considered challenge of group-think, and will be of interest to writer of doctrine.

Keywords: strategy, doctrine, operations

### **The Strategic Corporal: Leadership in the Three Block War**

Krulak, The Strategic Corporal: Leadership in the Three Block War, *Marines Magazine*, 1999.

Click [here](#) for the complete article

### **In this 7-page article the Commandant-US Marine Corps argues that success in contemporary operations hinges on junior leadership, and summarises how the USMC prepares these leaders for the 'complex, high stakes, asymmetrical battlefield of the Three Block War'.**

The author presents a hypothetical scenario highlighting the crucial role played by junior leaders, discusses why operational outcomes may hinge on these leaders and actions taken at the lowest level, and emphasises character, ongoing professional development, and leadership as the critical factors to their success. The paper argues that the blurring of distinctions- between types of operations and between combatant and non-combatant- and the prevalence of the media means success will require small unit leaders who can make confident, well-reasoned, and independent decisions under extreme stress. This is a hugely influential paper, and will be of particular interest to the trainer.

Keywords: small team leadership

### **The Indirect Approach: How US Military Forces Can Avoid the Pitfalls of Future Urban Warfare**

Scales, *The Indirect Approach: How US Military Forces Can Avoid the Pitfalls of Future Urban Warfare*, *Armed Forces Journal International*, 1998.

Click [here](#) for the complete article

**In this 7-page journal article MAJGEN Scales (US) outlines an alternative model for urban operations which will allow US forces to achieve strategic ends whilst avoiding the high casualties, civilian deaths and widespread destruction of conventional urban operations.**

Writing for a military audience, the author discusses his observations of recent wargaming, suggests a likely scenario for future enemy action, and summarises the limitations urban operations impose on the US military. He then outlines the Indirect Approach and explains how this works to US strengths and allows initiative to be maintained. The Indirect Approach proposes; a cordoning of the city, control of the sources of food/water/power/sanitation, complete control of media and related psyops, surveillance, encouragement of the population to relocate to prepared safe havens, and precision strikes at C2 targets. The author argues that as the remnant population grow to appreciate the enemy as a hostile occupying force which is unable to provide basic services, the city will 'collapse on itself', and enemy leadership will be displaced or the population will turn violently against them. This is an influential paper which proposes a broad conceptual rethink rather than a development of existing tactics, and will be of particular interest to the writer of concepts and doctrine, and military planners.

Keywords: political, policy, strategy, operations, information operations

### **Our Soldiers, Their Cities**

Peters, *Our Soldiers, Their Cities*, Parameters, 1996.

Click [here](#) for the complete article

**In this lyrical and thought provoking 7-page essay Peters contends the US is unprepared for a future dominated by urban operations, and brainstorms a wide range of initiatives and adaptations for improvement.**

Writing for the US army, the paper explores the nature of contemporary urban combat and proceeds to outline adjustments and hardware innovations required for infantry at the tactical level, and for C2, artillery, armour, engineers, aviation, intelligence and logistics at the operational level. The paper concludes with two specific recommendations: the army to re-organise and create dedicated urban operations divisions, and to acquire dedicated, large scale, real-city training ranges (Peters makes a persuasive case that existing abandoned US cities can be re-purposed for this). The author considers US capability is inhibited by inherited cold war structures and pushes for reform, arguing 'we must seize the future before the future seizes us'.

Keywords: operations, tactical, intelligence support, information operations, infantry tactics, armour tactics, artillery employment, engineer employment, resupply

### **Going Down Town: The Need for Precision MOUT**

Preysler, *Going Down Town: The Need for Precision MOUT*, *US Army Command and General Staff College*, 1994.

Click [here](#) for the complete article

**This 56-page US staff college monograph argues for MOUT doctrine to be split into two: the traditional, high intensity, high firepower combat in built up areas; and Precision MOUT - a restrained capability tailored to the strategic requirement for low civilian casualties and limited collateral damage in operations other than war.** The paper presents the historical development of MOUT doctrine with reference to three case studies - Aachen 1944, Hue 1968, and Panama 1989 - and

critiques current US doctrine. The author asserts the need for this precision MOUT, and describes how it would look, envisaging a disciplined use of force that links MOUT and OOTW and grounded in the fact that non-combatants will always be present in their cities. This is a well-structured, practical argument which will be of use to those interested in doctrinal development.

Keywords: doctrine, operations, germany, vietnam, aachen, hue, panama city

## HYBRID WAR

### **The Utility of Force - 5 Years On**

The Utility of Force - 5 Years On, Shaw, *British Army Review Special Report-Urban Operations-Volume 1 Winter 2018*, 2012.

Click [here](#) for the complete article, via British Army Review special report

**The author of this 7-page journal article reports on a talk by UK General Rupert Smith where he reflects on his book *The Utility of Force* five years on from publication, a talk that argues a paradigm shift in the purpose of warfare requires a whole-government response and institutional change.**

The paper offers a summary of the key points and conclusions of the book, and then summarises the points emphasised by Smith in his reflections: the purpose of warfare has changed while the nature of combat remains relatively constant; the distinction between defence and security; the relationship of conflict and confrontation and their respective currencies of firepower and information; and the failings of traditional command concepts when applied to confrontation. This is a readable introduction to Smith's book, which addresses strategic and organisational imperatives of future warfare.

Keywords: political, policy, strategy

### **Trieste 1945: Foreshadow of Hybrid War**

Lewis, Trieste 1945: Foreshadow of Hybrid War, *British Army Review Special Report-Urban Operations-Volume 2 Winter 2019*, 2015.

Click [here](#) for the complete article, via British Army Review special report

**The Allied/Partisan partnership to clear German forces from Trieste is examined in this 9-page article, which demonstrates the challenges of urban, littoral, 'war amongst the people' are not modern phenomena.** Writing for the British Army, the author offers a brief overview of the strategic situation before exploring the dynamics of this campaign to argue Clausewitzian theory struggles to incorporate the 'murderous irrationality' of splintered ethnic and societal drivers. The paper concludes that in a future where western armies can no longer assume technical dominance, the partnering with local forces as demonstrated in Trieste offers a strategic advantage - informed, boots-on-the-ground analysis. This is not a case study per se, but a reflective piece which seeks to come to grips with complexity.

Keywords: strategy, theory, civil-military, trieste

### **Future War and Chechnya: A Case for Hybrid Warfare**

Nemeth, Future War and Chechnya: A Case for Hybrid Warfare, *US Naval Postgraduate School*, 2002.

Click [here](#) for the complete article

**This 101-page thesis outlines the characteristics of the 'hybrid state', and argues that a better understanding of these devolving states and their militaries will enhance operations for Western forces.** Writing for a military audience, the author first examines the characteristics of traditional and modern societies and their militaries, and then presents a case study of the Chechen separatist

movement to illustrate the concept of the 'hybrid state' displaying a combination of these attributes. The paper then proposes the general characteristics of a hybrid state, the repercussions of these for Western forces, and makes suggestions for changes in approach to maximise success. The author argues that as states devolve from forms familiar to the West they are not necessarily failed states or 'throwbacks', but are returning to traditional social and political systems while retaining elements of modern technology and institutions to suit their needs. The inability of the West to recognise these unfamiliar structures - and their internal logic, motivations and societal norms - places it at a disadvantage in negotiations or conflict. This is a well-argued paper contributing to analysis of opposition forces, and will be of utility to the operational planner and the writer of doctrine.

Keywords: political, policy, strategy, chechnya, grozny

## MEGACITIES

### **The Military Implications of Complex Terrain in 21st Century Urban Areas**

Jensen, The Military Implications of Complex Terrain in 21st Century Urban Areas, Jensen, Complex Terrain: Megacities and the Changing Character of Urban Combat, *Marine Corps University Press*, 2019.

Click [here](#) for the complete article

**The editor of the USMC anthology Complex Terrain: Megacities and the changing character of urban combat summarises the challenges of contemporary urban operations and identifies ways forward for the US security establishment in this 16-page concluding chapter.** The author establishes the military problem of the near future - small, short notice actions in the population dense and digitally connected urban littoral. A central concept is outlined: mapping the city, it's flows, and the physical and cognitive feedback loops that channel resources and ideas; and then acting indirectly. Recommendations to this end for initiatives in organisation, materiel, and training and education are enunciated. This is a no-nonsense argument for a shift of focus away from direct military action, and will be of interest to the military planner.

Keywords: doctrine, operations, intelligence support, information operations, cimic

### **Distributed Influence: Enabling Maneuver in a Megacity**

Jensen et al (Eds), Distributed Influence: Enabling maneuver in a Megacity, Frerichs, Complex Terrain: Megacities and the changing character of Urban Combat, *Marine Corps University Press*, 2019.

Click [here](#) for the complete article

**Current US operational approaches are identified as inadequate for megacity operations in this 28-page paper, and an operating concept focused on identifying and influencing networks within the city is proposed instead.** Writing for the US military, the author draws inspiration from theories of naval power to conceptualise two approaches to megacity operations, and explores these through analogous operations in Grozny (1994-1995) and Medellin (late 1990s-early 2000s). Finding traditional concepts of manoeuvre unattainable in large cities, the paper supports a concept of influence, rather than control, and proposes an operational model to this end - Distributed Influence. Working from a frank premise, this is a thought-provoking paper calling for a reassessment of current doctrine.

Keywords: operations, chechnya, grozny

### **Take it, Don't Break It: A Megacity Concept of Operations**

Borley, Jensen et al (Eds), Take it, Don't Break It: A Megacity Concept of Operations, *Complex Terrain: Megacities and the changing character of Urban Combat*, Marine Corps University Press, 2019.

Click [here](#) for the complete article

**This 21-page journal paper argues that megacity operations may come to resemble sieges and reviews a range of historical cases to articulate the utility of deception, treachery, and tunnelling as strategies to win without fighting.** Writing for the US military, the author argues that victory in the megacity will require the preservation of its networks, describing and analysing 19 sieges to explore these alternatives to assault and destruction. The concepts are applied to contemporary ops, with a premium placed on intelligence. This is a concise introduction to the topic with insights and anecdotes that may be useful to the trainer.

Keywords: policy, operations

### **Joint Combined Arms Maneuver in the Megacity: Learning to Thrive in Chaos**

Lynch, Jensen et al (Eds), Joint Combined Arms Maneuver in the Megacity: Learning to Thrive in Chaos, *Complex Terrain: Megacities and the Changing Character of Urban Combat*, Marine Corps University Press, 2019.

Click [here](#) for the complete article

**The development of a 'multi-purpose division' which specialises in urban operations is proposed in this 24-page journal paper, and cases are examined to inform considerations for such a force.**

Writing for the US Army, the author identifies inadequacies in current doctrine, and analyses outcomes in the second Lebanon war (2006) and Kismayo (2012) to frame organisational and operational concepts for the multi-purpose division. The paper presents the French intervention in Mali (2013) as an exemplar of this approach, and discusses implications for mission command, Intel, sustainment, force protection, inter-agency cooperation, and partner integration.

Keywords: doctrine, operations, tactical, israel/palestine, lebanon, somalia

### **Symbiotic Warfare: Resource Competition and Conflict**

Manning, Jensen et al (Eds), Symbiotic Warfare: Resource Competition and Conflict, *Complex Terrain: Megacities and the Changing Character of Urban Combat*, Marine Corps University Press, 2019.

Click [here](#) for the complete article

**Insights from biological studies of invasive species are brought to bear on conflict in cities driven by competition for essential resources in this 28-page journal paper.** Writing for the US military, the author argues that violence arises in cities when groups mobilise to gain control of resource networks, and countering this threat is considered through the lens of invasion biology. The paper extrapolates observations from this model into a symbiotic warfare operating concept, identifying intervention points where militaries can empower and assist the indigenous population to neutralise the predators themselves. Arguing that effective operations may be less direct action and more about securing and delivering essential resources, this is an innovative interdisciplinary contribution to urban operational design.

Keywords: strategy, operations, cimic

### **Territorialization of the Megacity: Exploiting Social Borders**

Gerbracht, Jensen et al (Eds), *Territorialization of the Megacity: Exploiting Social Borders, Complex Terrain: Megacities and the Changing Character of Urban Combat*, Marine Corps University Press, 2019.

Click [here](#) for the complete article

**This 22-page paper explains the drivers and nature of collective violence, and analyses the riots in LA (1992) and Paris (2005-2006) to argue that by understanding the social map and adequately preparing, security forces can limit the impact of such uprisings.** The author - a USMC officer - gives an overview of the theory of territory-based collective violence, illustrated with references to the two cases. From these observations she draws implications for preparation of the security response, including considerations of C2, force protection, intelligence, fires, logistics and manoeuvre. This paper synthesises theory and practice, and will be of interest to military commanders and doctrine writers.

Keywords: theory, concepts, operations, intelligence support, civil-military, policing

### **Megacities and the Proposed Urban Intervention Model**

Graham & Allen, *Megacities and the Proposed Urban Intervention Model*, Naval Postgraduate School, 2016.

Click [here](#) for the complete article

**This 137-page thesis presents a model for planning military disaster relief in cities and demonstrates its application through a hypothetical intervention into an earthquake ravaged megacity.** Writing for Western militaries, the authors review the challenges and complexities of megacities, and present their Urban Intervention Model - a case-based reasoning framework which incorporates operational design concepts to generate COA, objectives, measures of effectiveness/performance and provide a tool for continual re-evaluation of mission success. The model is then applied to the hypothetical, and the paper concludes with recommendations: megacities be considered as a discrete operational domain; international, inter-agency, and inter-service gaming and exercises be conducted in preparation; and enduring military/civil relationships with urban experts be established before operations commence. This is a well-structured and well-presented paper offering a practical model to account for the complexity of the megacity, and will be of utility to the operational planner.

Keywords: strategy, operations, cemic

### **Analysis of US Army Preparations for Megacity Operations**

Kaune, *Analysis of US Army Preparations for Megacity Operations*, US Army War College, 2016.

Click [here](#) for the complete article

**This 37-page research paper reviews the policy, planning, and doctrinal initiatives underway to understand and meet the challenges inherent to military intervention in a megacity.** Writing for the US Army, the author examines the tools and procedures available for thinking and learning about megacities, and considers the likely mission types, to inform doctrine/planning/technology/force structure. The paper observes that the US Army is currently incapable of operations in megacities, and argues for a generalist approach to preparing for the challenge, with a leaner, more agile force able to respond to developing strategic scenarios.

Keywords: doctrine, operations

### **Megacities: Pros and Cons: The Case for Megacities**

Felix & Wong, *Megacities: Pros and Cons: The Case for Megacities*, *Parameters*, 2015.

Click [here](#) for the complete article

**This 14-page US army journal article examines the strategic and policy implications of the megacity and makes recommendations to equip the US military to operate effectively in this complex urban terrain.** The paper begins with a historical contextualisation of megacities and describes their strategic characteristics, noting the US unprepared for combat in this environment. The unique challenges of the megacity are explored, and the authors review current initiatives and approaches before making policy and organisational recommendations to improve preparedness. This is a quick, recent, and thought-provoking overview of the topic illustrated with examples and clearly summarising complex considerations.

Keywords: policy, strategy, operations

### **Military Contingencies in Megacities and Sub Megacities**

Williams & Selle, *Military Contingencies in Megacities and Sub Megacities*, *US Army War College*, 2016.

Click [here](#) for the complete article

**In this 163-page research paper, the authors explore likely scenarios which would draw a US military force into operations in one of the world's 10+million population cities, and consider responses to the range of challenges they envisage in this extreme operational environment.**

Writing for the US Army, the authors outline six contingencies which they see as most likely, and focus on IPB – offering a 10-layer model for megacity Intelligence analysis. They discuss the complexity of understanding and operating on the megacity battlefield, and conclude with a range of recommendations regarding doctrine, organisation, training and recruitment, technology, and partnerships and alliances. The authors view the megacity as a complex living organism with unique flows, networks, and rhythms, and contend that understanding and working with these dynamic forces will enhance chances of success. This is a broad ranging consideration of a formidable battlespace, and of particular interest to Operational Planners and the writer of doctrine.

Keywords: operations, intelligence support, information operations, cimic

### **Military Operations in Megacities: A Linguistic Perspective**

Watson, *Military operations in Megacities: A linguistic Perspective*, *Military Review*, 2016.

Click [here](#) for the complete article

**This 8-page US army journal article discusses the dynamic linguistic characteristics of megacities, and explores processes which will allow a deeper understanding of the 'language landscape' to inform operational planning.** The paper explains the nature of language complexity using examples from India's megacities, and articulates how this multilingualism is entwined in power structures, connectedness, and information flows, as well as articulating practical applications of these insights for pre-deployment preparation. That author observes that a consideration of language is notably absent in the army's analysis framework, and argues persuasively for its inclusion. This is a well explained and illustrated essay with ramifications for the operational planner and writer of doctrine.

Keywords: operations, intelligence support, information operations

### **Megacities and the United States Army: Preparing for a Complex and Uncertain Future**

Harris et al, *Megacities and the United States Army: Preparing for a Complex and Uncertain Future*, *Chief of the Staff of the Army Strategic Studies Group*, 2014.

Click [here](#) for the complete article

**This 24-page paper is the summary of a briefing to the US army Chief of Staff identifying gaps in understanding and proposing a strategic appreciation model acknowledging the complexity and interconnectedness of megacities.** The paper considers the strategic significance of megacities, and

proceeds to highlight conceptual deficiencies in current doctrine, frameworks, and planning scenarios. The authors present the appreciation model - incorporating a range of characteristics which interrelate and combine with a set of drivers of instability and capacity, as well as a typology differentiating cities as highly/moderately/loosely integrated. A series of cases are reviewed to illustrate concepts from the model - New York, Bangkok, Rio, Sao Paulo, Lagos, and Dhaka.

Keywords: strategy, doctrine, operations, intelligence support

## POPULATIONS, URBANISATION AND HUMAN TERRAIN

### **Urban Warfare: Stabilisation of Cities**

Comolli, *Urban Warfare: Stabilisation of Cities*, *Emirates Diplomatic Academy*, 2019.

Click [here](#) for the complete article

**A broadening of the concept of stabilisation away from simple military/security considerations is urged in this 30-page working paper, which argues such a reconceptualisation is crucial to entrench lasting gains in post-conflict cities.** The paper considers the demographic trends exacerbating instability in cities, and reviews multi-disciplinary/multi-agency approaches to post-conflict operations - involving military, humanitarian, aid, development and urban planning expertise. Using a range of examples from around the globe, the author argues for a more decentralised, participatory reconstruction which maximises local engagement and cooperation. This is a wide ranging, general, and accessible introduction to the concept which may be of utility to military commanders and city and state officials.

Keywords: strategy, concepts, operations, civil-military

### **No 'Ordinary Crimes': An Alternative Approach to Securing Global Hotspots and Dense Urban Areas**

Guilmartin, *No 'Ordinary Crimes': An Alternative Approach to Securing Global Hotspots and Dense Urban Areas*, *Military Review*, 2019.

Click [here](#) for the complete article

**The ability of the US military to monitor and understand regional trends is identified as a crucial readiness factor in this 11-page journal article, which analyses global crime data to demonstrate its utility in informing strategy.** The author argues for a capability to continually monitor and understand regional and global trends and makes recommendations to that effect: increased regional expertise; a focusing of civil/military partnerships into more targeted industries; an increase in the technical and academic skills of the military; and an organisational shift toward criminal/hybrid threats. This is a concise article calling for a deliberate, data driven approach to forecasting, and may be of interest to the planner.

Keywords: crime

### **Before and After Urban Warfare: Conflict prevention and Transitions in Cities**

Sampaio, *Before and After Urban Warfare: Conflict Prevention and Transitions in Cities*, *ICRC*, 2016.

Click [here](#) for the complete article

**In this 26-page journal article for the International Red Cross the author explores the current frameworks for intervention in cities vulnerable to low intensity, protracted violence by non-state actors.** The paper begins with an overview of the link between growing urbanisation and the proliferation of armed, non-state groups in cities, and references a range of recent operations to explain current models of conflict prevention, peace building, and peace keeping. The author observes that while instances of non-state actors seeking aggressive confrontation with conventional forces are

rare, this remains the military focus. Instead he suggests a more nuanced, multi-disciplinary approach to understanding the urban strategic environment - key local actors, institutions, services and perspectives - and allow a greater range of options at the strategic and operational level.

Keywords: political, policy, strategy, statistics, doctrine, operations

### **The Urban Individual: Unassailable Source of Power in 21st Century Armed Conflicts**

Claessen, The Urban Individual: Unassailable Source of Power in 21st Century Armed Conflicts, *Military Review*, 2015.

Click [here](#) for the complete article

**This 8-page journal article from a serving Belgian officer argues that the decisive source of power in urban conflict has become the protest power of the population, and that this reality has concrete implications for forces considering operations in cities.** The paper considers recent operations and political revolutions to demonstrate that the mobilisation of the city as a strategic power source - by generating contention in such numbers that population control measures become unsupportable - can overwhelm military force. The author proposes that, in an environment of global financing and unlimited communications, traditional understandings of gaining the initiative need to be reframed toward seizing control of this protest potential to deny it to the enemy. This is a concise and well-argued piece which will be of interest to the planner and writer of doctrine.

Keywords: strategy, information operations, civic

### **The Role of Human Terrain and Cultural Intelligence in Contemporary Hybrid and Urban Warfare**

Dostri & Michael, The Role of Human Terrain and Cultural Intelligence in Contemporary Hybrid and Urban Warfare, *The International Journal of Intelligence, Security, and Public Affairs*, 2015.

Click [here](#) for the complete article (Researchgate)

**The US Human Terrain System project is reviewed in this 20-page journal article, which explains the concepts of cultural intelligence and its implications for military operations.** The paper argues that an understanding of local culture is essential to ensure the relevance of a military mission, and enunciates the required characteristics for the cultural intelligence professional. US initiatives in Iraq and Afghanistan are considered, with a brief look at Israeli adoption of the concepts. This is a handy, concise overview of the topic which may offer insights for the military planner.

Keywords: intelligence support, civic, iraq, israel/palestine, syria, afghanistan

### **Confronting Criminal Street Gangs: Lessons from the Counter-Insurgency Battlespace**

Bertetto, Confronting Criminal Street Gangs: Lessons from the Counter-Insurgency Battlespace, *Small Wars Journal/Law Enforcement Executive Forum*, 2012.

Click [here](#) for the complete article

**The similarities in structure and operations of street gangs and urban insurgents are elucidated in this 11-page journal article, the author arguing this allows inter-disciplinary learning and sharing, to inform the operations of police and military respectively.** The paper examines enemy/population/ leadership-centric strategies and their applicability, and addresses COG considerations. The author presents a 19-article statement of principles he sees as integral to policing street-gangs, with special emphasis given to intelligence and flexibility - as no 'one size fits all' solution is applicable. This is a short, practical discussion of theory and strategy and their application to operations.

Keywords: strategy, theory, operations, tactical, intelligence support, civil-military, policing

### **Cities, Conflict and State Fragility**

Beall et al, Cities, Conflict and State Fragility, *Crisis States Research Centre*, 2011.

Click [here](#) for the complete article

**Differing forms of violent conflict in cities are elucidated in this 35-page working paper, and the options for managing these are explored along with their impact on the state.** Writing for a fragile state research program hosted by the London School of Economics, the authors categorise urban conflict as sovereign, civil, or civic, and describes the characteristics of these and their impacts on the city. The morphing of these types is explored, and management choices presented in a framework: manipulating tensions into conflict; deferring or suppression; clientilistic cooptation; or channelling civic violence into generative engagement. The paper uses a range of global examples to discuss outcomes from these differing approaches, and the resultant impact on the city and state. This is a clear and readable analysis which renders a complex topic accessible, and is a development of concepts elucidated by the same authors in the 4-page 2010 briefing paper Policy directions: Cities and Conflict.

Keywords: strategy, crime, policing

### **Violence and Humanitarian Action in Urban Areas: New Challenges, New Approaches**

Harroff-Travel, Violence and Humanitarian Action in Urban Areas: New Challenges, New Approaches, *ICRC*, 2010.

Click [here](#) for the complete article

**New and mutating forms of armed violence and its impact on vulnerable populations in cities are explored in this 22-page journal article from the Red Cross.** The authors explore the diversity of violence that plagues cities even in times of peace, and present the challenges for humanitarian response: identification of beneficiaries and their needs; the size and complexity of problems and their systemic/ infrastructure implications; and co-ordination with other entities including bridging governance gaps and relating to criminal organisations. The plight of the very poor and migrant populations in this violent environment are considered, and innovative responses are discussed. The author concludes that violence cannot be mastered by a security measures alone and that underlying causes need to be addressed. Illustrated with reference to a range of global cities and situations, this is a readable exposition of complex human terrain and will be of interest to the trainer and military planner.

Keywords: strategy, operations, civic, humanitarian

### **Humanitarian Challenges of Urbanisation**

Duijsens, Humanitarian Challenges of Urbanisation, *International Review of the Red Cross* 92, NO.878, (2010): 351-368.

Click [here](#) for the complete article

**This eighteen page online journal article examines the humanitarian challenges of vulnerability and poverty facing slum-dwellers occupying informal settlements in the 'global south.'** A medium-length document in formal prose, it is comprised of an abstract and four main headings. Published by the International Review of the Red Cross, this paper utilises secondary sources, including UN development reports and academic journal articles, for the purpose of enhancing accountability of the International Red Cross and Red Crescent Movement. Presenting analysis of slum urban spaces as sites of 'permanent crisis' and 'permanent armed conflict,' it reinforces the intersection of human security and livelihood frameworks, with the intent of building human resilience through long-term, preventive intervention. Acknowledging limitations faced by such organisations in the implementation of 'permanent response' to such crisis, this article would be useful for international humanitarian and legal organisations.

Keywords: humanitarian, slum

### **Cities, Terrorism and Urban Wars of the 21st Century**

Beall, Cities, Terrorism and Urban Wars of the 21st Century, *Crisis States Research Centre*, 2007.

Click [here](#) for the complete article

**The vulnerability and resilience of cities in the developing world is explored in this 22-page working paper, as the rise of city terrorism helps define the shift from the ‘peasant wars’ of the 20th century to the ‘urban wars’ of the 21st.** The author considers the globalisation of attacks on cities, contextualising terrorist actions within ‘everyday’ violence and state terrorism/urbicide which are illustrated with a range of global examples. Links between the effects of terror and development are considered, the author concluding that cities absorb much of the impact of conflict while providing the site for reconstructing and peace building - but this capacity for recovery is diminished by the impact of terrorism. While not addressing urban warfare per se, the paper contributes to an understanding of the developing-world city and is a readable exposition of the topic.

Keywords: crime, terrorism

### **Slum Wars of the 21st Century: The New Geography of Conflict in Central America**

Rodgers, Slum Wars of the 21st Century: The New Geography of Conflict in Central America, *LSE Crisis States Research Centre*, 2007.

Click [here](#) for the complete article

**This 21-page working paper examines the evolution of violence in Central America, arguing the shift from a rural to urban setting is a continuation of existing conflict rather than a change of motivation or a result of the urban environment itself.** Writing for an international policy audience, the author traces the development of conflict in the region, using a study of Nicaragua to illustrate the nature of modern urban violence which he categorises a ‘slum wars’. The paper explores gang violence in the capital Managua, identifies the response of elites to ‘disembed’ from the larger cityscape, and contends that although the forms of brutality have changed the conflict remains a political one between social classes. This is an informative paper, offering academic theory enlightened by examples, and is further developed in the author’s influential 2019 paper Slum wars of the 21st century gangs, Mano Dura and the new urban geography of conflict in Central America available at:

Click [here](#) for the complete article

Keywords: concepts, civil-military, policing, nicaragua

### **The Trembling Balance: Peacekeeping in the Tribal City**

Allen, The Trembling Balance: Peacekeeping in the Tribal City, *Defence Studies*, 2003.

Click [here](#) for the complete article

The original Peters article is available at

Click [here](#) for the complete article

**In this 20-page journal article a serving British officer explores the human complexity of urban peacekeeping, focussing on attaining and maintaining the consent of population and leaderships.** The paper considers Peters’ 3-city model of city categorisation, and whilst acknowledging that the ‘tribal’ city presents the greatest challenge to operations also cautions against oversimplification of complex social dynamics. The paper uses a range of examples from recent operations to highlight the difficulty in understanding relationships, linkages, and control, and concludes with examining implications for future UK operations. The author argues that all cities are tribal cities to a degree, and that cultural intelligence

and rigorous intelligence are essential for mission success. This is a readable and well explained paper which may offer insights of use to the planner and trainer.

Keywords: strategy, intelligence support, civic, policing

### **Feral Cities**

Norton, Feral Cities, *Naval War College Review*, 2003.

Click [here](#) for the complete article

### **Visions of failed cities wallowing in disease, pollution, and lawlessness are conjured in this 11-page journal article and presented as an emerging security challenge for the 21st century.**

Writing for a US military journal, the author defines the 'feral city' and articulates why they may become hotspots deserving international attention. The author presents a framework for identifying the potential for cities to become feral, using a tabular report-card to consider governance, economy, services, and security. While highly referenced for its alarming, provocative, futurist images of urban dystopia, the paper makes its most important contribution via this methodology for considering the fragility and vulnerabilities of cities.

Keywords: policing, crime, social science

### **Feral Cities: Problems Today, Battlefields Tomorrow?**

Norton, Feral Cities: Problems Today, Battlefields Tomorrow?, *Marine Corps University Journal*, 2010.

Click [here](#) for the complete article

**In this 26-page journal article Richard Norton revisits his oft-quoted 2003 paper Feral Cities to update the predictive framework and consider the range of threat presented by these failed conglomerations.** Conjuring images of a malignant, violent, and fragmented battlespace for the US military, the author specifies the range of conditions which may give birth to a feral city, and identifies the alternate governance structures which may rise in lieu of state control. The paper highlights the importance of civil society within a failing city - incorporating it into the 2003 diagnostic schema - and explores the relationship feral cities may develop with their state and the wider world. The author argues the US must prepare for the rise of this threat by developing better regional awareness, creating robust inter-agency response, and forming specialised urban units. This is a grim futurist vision, illustrated by reference to a range of currently failing/struggling cities.

Keywords: policy, strategy

### **Emergence of Feral and Criminal Cities: US Military Implications in a Time of Austerity**

Bunker, The Emergence of Feral and Criminal Cities: US Military Implications in a Time of Austerity, *The Institute of Land Warfare*, 2014.

Click [here](#) for the complete article

**The rise of feral cities - and the appropriate use of the US military in response - is considered in this 25-page monograph which argues for more limited deployments and operations restricted to containing and neutralising direct threats to US interests.** The paper reviews the concept of the feral city, presenting the author's own additions to Norton's schema for identifying and characterising at-risk cities. The current state of US military capability is analysed considering the expense and failure of nation-building adventures in Afghanistan and Iraq, and implications for the future are elucidated - nation-building and city building are beyond capability, crime and war have become increasingly merged, and any future operations will require increased leveraging of proxy forces/allied auxiliaries and robotics. The author argues that boots-on-the-ground should only be utilised to 'make safe' the feral city, and

should prioritise cities close to or within the US. This is a frank analysis of capability and a conversation starter for consideration of future strategy.

Keywords: policy, strategy

### **The Los Angeles Riots of 1992**

Delk, The Los Angeles Riots of 1992, *Soldiers in Cities: Military operations on Urban Terrain*, SSI, 2001.

Click [here](#) for the complete article

**The military field commander for the National Guard deployment during the LA riots (1992) reflects on the operation and makes general observations to inform future civil-support ops.** This 13-page conference paper offers a background to the riots and a narrative of the unfolding civil disturbance. Troop deployment and tasking is briefly described, and a dot point list of lessons/observations is supplied, including: challenges in communications interoperability with police; the particular stress of operating against fellow citizens; and missed opportunities in public affairs and info-ops. This paper is a light and somewhat sanitised treatment of the topic, leaving the reader keen for a more critical, focussed discussion.

Keywords: operations, civil-military, policing

## **THEORY AND ANALYSIS**

### **Fighting in the Streets - Testing Theory on Urban Warfighting**

Villner, Fighting in the Streets - Testing Theory on Urban Warfighting, *Thesis - Swedish Defence University*, 2017.

Click [here](#) for the complete article

**Alice Hills' theory of urban warfare outlined in her book 'Future Wars in Cities' is tested in this 41-page thesis which confirms her view of a battlespace where technological advantage is negated and ground forces must engage in slow, high casualty, attritional warfare.** Villner begins with a summary of Hills' theory and then develops a framework to test it by considering 3 case studies – Stalingrad 1942-43, Mogadishu 1993, and Grozny 1994. The author concludes that the Hills' model has explanatory value in these instances, and highlights Intelligence – particularly HUMINT – as an additional factor relevant to all three operations which he suggests may be of heightened import in urban operations.

Keywords: operations, intelligence support, chechnya, russia, somalia, grozny, stalingrad, mogadishu

### **Urban Operations in the Year 2020**

Urban Operations in the Year 2020, RTO Studies, *Analysis and Simulation Panel Study Group*, NATO, 2003.

Click [here](#) for the complete article

**This NATO study-group report considers the future concepts and requirements for military intervention in urban areas and focusses on innovations at the operational level.** The paper begins with an analysis of the future urban environment and highlights the manoeuvrist approach as the emerging over-arching concept most likely to lead to significant improvements in capability. A review of the range of potential urban missions is conducted, and the concepts a commander might employ in response to these are identified. The paper draws from these 15 key capabilities requirements and makes recommendations for their development in the realm of doctrine, organisation, training and materiel. The authors argue that present capabilities are essentially unchanged since WW2, and that the greatest opportunity for dramatic improvement is at the operational level. The paper is 42-pages plus 110-pages of annexes and will be of utility to the operational planner and the writer of doctrine.

Keywords: doctrine, operations

### **Urban Concepts: Theory and Cases**

Anderson & Rice, *Urban Concepts: Theory and Cases*, *Naval Postgraduate School*, 2003.

Click [here](#) for the complete article

**This 209-page thesis compares force performance in conventional operations prior to urban combat with effectiveness in the urban battle itself, and identifies trends in the degradation of capability.** Writing for the US military, the authors develop a framework for analysis composed of 6 factors - environment, time, information, application of technology, human factors, and decision making. Cases are scrutinised via this framework - the German advance to Stalingrad/battle of Stalingrad 1942-1943, the Israeli offensive in Sinai/the battle of Suez City 1973, and the USMC operations in Vietnam 1967-68/the battle of Hue 1968 - and insights drawn. The paper finds commonalities relating to urban components of campaigns, including lack of training for urban combat, increased timings to accomplish tasks, a resistance to operating at night, increasing difficulty in processing and communicating information, and a tendency toward micro-management by military and political leaders. This is a strongly structured paper which will be of interest to the writer of doctrine.

Keywords: operations, israel/palestine, russia, vietnam, hue, stalingrad, suez city

### **Urban Operations: Social Meaning, the Urban Built Form, and Economic Function**

Neiman, *Urban Operations: Social Meaning, the Urban Built Form, and Economic Function*, *Soldiers in Cities: Military Operations on Urban Terrain*, SSI, 2001.

Click [here](#) for the complete article

**This 9-page conference paper for the US military applies concepts and insights from urban planning to suggest how urban operations can be better informed.** The author identifies the fundamental problems of planning for urban contingencies - the huge variety of urban environments preclude simple models, and the imperative for capacity to deal with peak demand/most dangerous scenario even though this is rarely needed. The paper explains the three critical categories for describing the social and physical dimensions of urban environments - social meaning, built form, and economic function - and suggests how these can be applied to military planning. This is an informative, interdisciplinary approach to understanding urban complexity which offers concrete suggestions to guide preparation, and will be of interest to doctrine writers, policy makers and strategists.

Keywords: operations

### **The Human Terrain of Urban Operations**

Peters, *The Human Terrain of Urban Operations*, *Parameters*, 2000.

Click [here](#) for the complete article

**Author and commentator Ralph Peters offers a model for classifying cities and discusses the associated military implications in this 7-page essay.** Writing for the US military, the author categorises cities as either hierarchical, multicultural, or tribal, and discusses how these characterisations may influence the success or failure of military interventions. The paper argues the key variable of urban operations is the population, and that the likeliest scene of future violence will be in the cities. Never short of a broad statement or resonant turn of phrase, Peters presents a 'crude framework' here in order to spark debate, and may offer observations of interest to the trainer.

Keywords: strategy, civic

### **Urban Warfare: Options, Problems, and the Future**

Press, *Urban Warfare: Options, Problems, and the Future*, Conference Paper - *MIT Security Studies Program*, 1999.

Click [here](#) for the complete article

**In a pragmatic, big picture approach to urban operation policy this 18-page conference paper argues the US only need prepare for raids and policing actions, as available strategic and operational alternatives are far better than engaging in sustained urban combat.** Speaking to a US military audience, the author summarises the reasons to expect involvement in cities, and reviews the difficulties of urban terrain and current initiatives to mitigate these challenges. Next, he explains the types of operations and their attendant risk, and concludes with an overview of the options available in place of deploying troops into cities. The author argues that raids and humanitarian roles have a strategic or political relevance which can justify risk, but sustained urban combat shouldn't be considered as troop casualties cannot be sustained in causes not directly in the US national interest. This is a frank and well-developed argument, with tables illustrating risk and alternatives.

Keywords: political, policy, strategy, operations

### **Denying the Widow-Maker**

Glenn et al, *Denying the Widow-Maker*, *RAND*, 1998.

Click [here](#) for the complete article

**In 1998 the US Army and RAND co-hosted a two-day conference to assess the readiness of US forces for urban operations and to identify the changes necessary to meet the challenge.** This is the summary of proceedings (40-page), and an appendix containing the slides from the presentations (120-page). The paper organises the findings under the headings Doctrine, Training, Organisation, and Technology, and notes the greatest potential for near term improvement is in doctrine and training, whereas technology offers the greatest scope for a dramatic increase in capability. The conference expressed particular concern with the doctrine of avoidance, the impacts of casualties on national decision makers and mission accomplishment, and the fact that while there were no quick fixes for MOUT shortcomings there was a likelihood of essential urban operations in the near future. This is a wide ranging, big-issue paper which still identifies specific areas of concern and makes concrete suggestions.

Keywords: doctrine, operations, operational-level, tactical

### **Report of the Defense Science Board Task Force on Military Operations in Built-up Areas**

Defense Science Board, *Report of the Defense Science Board Task Force on Military Operations in Built-up Areas (MOBA)*, *Defense Science Board*, 1994.

Click [here](#) for the complete article

**This circa-1994 think-tank for the US military seeks to determine current capabilities and future needs for conducting OOTW in the urban environment, and concludes that MOBA requires its own integrated system to drive analysis, doctrine and procurement.** The 141-page report (including appendices) assesses the future of US operations, considers lessons learned from recent deployment in Somalia, reviews relevant literature, and explores urban tactics, doctrine, and innovative technology. The paper finds that dramatic improvements in capability are expected from tailored doctrine combined with current/emerging tech, and comments presciently that 'US MOBA must be conducted superbly...anything less will erode, and perhaps irreparably damage and compromise US influence.' This is a snapshot-in-time paper which has dated, but offers insights into the evolution of urban operations thought.

Keywords: doctrine, operations, tactical, civil-military, somalia

## CRITICAL PERSPECTIVES

### **The Urbanization of Drone Warfare: Policing Surplus Populations in the Droneopolis**

Shaw, The Urbanization of Drone Warfare: Policing Surplus Populations in the Droneopolis, *Geographica Helvetica*, 2016.

Click [here](#) for the complete article

**Geographer Ian Shaw charts the adoption of military drone surveillance technology from the warzone to the urban spaces of the West, and its employment to police and pacify domestic 'surplus populations'.** The paper articulates the plight of this bloc of citizens - unemployed and marginalised, both the result and target of capitalist technics - and the development of drones which through pervasive surveillance isolate and 'psychologically imprison' target populations. The paper extrapolates these developments to a near-future vision of the Droneopolis, a city of persistent, intimate, and weaponised surveillance. In a readable article the author advances the debate regarding battlespace security doctrine, arguing the militarisation of urban space is enabled when the state no longer feels responsible for ending inequality, but for policing it.

Keywords: policy, social science, psychology, intelligence support, uav, civil-military, policing

### **When Life Itself Is War: On the Urbanization of Military and Security Doctrine**

Graham, When Life Itself Is War: On the Urbanization of Military and Security Doctrine, *International Journal of Urban and Regional Research*, 2012.

Click [here](#) for the complete article

**This 20-page journal article seeks to demonstrate that evolving ideologies of endless and boundless war are dramatically intensifying the militarisation of urban life, and identifies the trends normalising this permanent targeting of city sites, systems and populations.** The paper warns of this normalisation through the lens of the author's new military urbanism concept, examining the elements in turn: urbanisation of military/security theory; links between control technology and digital life; the militarisation of media; the economics of security industries; and the spaces of urban violence - dehousing, displacement, and 'urbicide'. While a sometimes demanding read (for a primarily academic audience), it is a thought-provoking, big-picture reframing from an influential theorist of the city's place in conflict.

Keywords: political, policy

### **Combat Zones that See: Urban Warfare and US Military Technology**

Graham, Combat Zones that See: Urban Warfare and US Military Technology, *Observant States: Geopolitics and visual Culture*, 2010.

Click [here](#) for the complete article

**Geographer Stephen Graham examines the urban warfare assumptions generated by the US military since the cold war and explores how these position cities as the pre-eminent conflict zone and fuel a search for 'technophilic' solutions.** Developing concepts from previous papers, in this 26-page chapter the author identifies two main themes of military discourse: cities seen as a frustration to the tech gaze of overhead surveillance and targeting platforms; and a shift from cold-war/failed-state threat assessments to a positioning of the city as the primary operating environment. The paper then explores current and pending US tech initiatives to counter these perceived challenges, and observes that these 'dreams of omnipotence' in surveillance/tracking/targeting are closely followed by those conjuring 'cyborganised and automated killing machines'. This is an accessible paper which prompts reflection on common assumptions.

Keywords: strategy, intelligence support, targeting, drone, ai

### **Cities as Battlespace: The New Military Urbanism**

Graham, *Cities as Battlespace: The New Military Urbanism*, *City*, 2009.

Click [here](#) for the complete article

**The militarisation of everyday urban spaces, interactions and culture is explored in this 23-page essay, which warns of a rapidly evolving discourse which renders cities and citizens as threats and targets in a boundless and unending battlespace.** The author explores the normalisation of this new military urbanism through a five-pillar model: ubiquity of military tracking and targeting technology in civilian social spaces; the interchange of tech and techniques between conflict cities and the home-front; the expansion of military corporations into civilian markets; the deployment of violence against infrastructure - the demodernisation of groups; and the fusing of militarisation into popular culture, including gaming, media, and vehicle design. Graham offers a social science perspective to challenge militaristic paradigms.

Keywords: political, policy, psychology

### **Interrupting the Algorithmic Gaze? Urban Warfare and US Military Technology**

McDonald Ed., *Interrupting the Algorithmic Gaze? Urban Warfare and US Military Technology*, Graham, *Geopolitics and Visual Culture: Representation, Performance, Observant Practice*, 2006.

Click [here](#) for the complete article

**This 21-page essay charts the development of western military discourse which frames cities as obstacles to networked surveillance, and examines concepts which are touted within the military as solutions.** Writing for a social sciences audience, the author explains the evolution of military concern regarding urbanisation, the urbanisation of insurgency, and the frustrations for achieving 'real time situational awareness' in an environment which interrupts the gaze of overhead surveillance platforms. The paper then explores what is delightfully termed 'technophilia solutions' including concepts of area saturation with miniature surveillance and targeting systems, robotic killing systems, and autonomous UAV and UGV. The author concludes that following the disaster of the conventional approach in Iraq 'it is easy to sell technological silver bullets,' and expects an ongoing research focus on these initiatives. This is an accessible essay from an influential commentator who always brings fresh perspectives to established paradigms, and is further developed in the 2007 *Robo-war Dreams: Global south urbanisation and the US military's 'Revolution in military Affairs'* available in this bibliography or click [here](#) for the link.

Keywords: intelligence support, targeting, ugv, uav

### **Postmortem City: Towards an Urban Geopolitics**

Graham, *Postmortem City: Towards an Urban Geopolitics*, *City*, 2004.

Click [here](#) for the complete article

**This 33-page journal article argues that not only is warfare woven into the very fabric of cities, but that their targeting and destruction has become a hallmark of modern society.** Writing for an urban planning/social sciences audience, the author presents an historical narrative of cities and violence from the 20th Century to present, ranging through - amongst other things - urban planning, allied area bombing in WW2, Israeli destruction of refugee camps, militarised media and entertainment, urbicidal video gaming, and the rise of the 'urban assault luxury vehicle' SUV. The essay identifies modern conflict as characterised by the systematic and planned annihilation of urban areas as protagonists contest for control of cities. Graham is an influential commentator, and the perspectives offered are worth what can be a sometimes difficult read for the non-specialist.

Keywords: policy, social science

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## MULTI-CASE ANALYSIS AND ANTHOLOGIES

### MULTI-CASE ANALYSES

#### **Reimagining the Character of Urban Operations for the US Army: How the Past Can Inform the Present**

Gentile et al, Reimagining the Character of Urban Operations for the US Army: How the Past Can Inform the Present, *RAND*, 2017.

Click [here](#) for the complete article

**This 214-page research paper analyses a range of case studies - Mogadishu 1993, Grozny 1994 and 1999, Baghdad 2003, Fallujah 2004, and Sadr City 2008 - to glean lessons to inform US preparation for urban operations.** Commissioned by the US army, the paper also examines the emerging threat type exemplified by the Russians in Ukraine and dedicates a chapter to the central role of intelligence in future urban warfare. Among many findings the authors emphasise the essential role of mobile, protected firepower combined effectively with infantry, and conclude the US army is not ready for urban combat as it has not absorbed the lessons of these cases into its doctrine, training and tactics. This is a comprehensive discussion, weaving the recent Iraq operations into the modern urban warfare narrative and drawing well-founded conclusions.

Keywords: operations, intelligence support, combined-arms tactics, infantry tactics, armour tactics, chechnya, iraq, fallujah, grozny, mogadishu, baghdad, sadr city, ukraine

#### **Lessons Worth Remembering: Combat in Urban Areas**

Hernandez, Lessons Worth Remembering: Combat in Urban Areas, *US Army Command and General Staff College*, 2016.

Click [here](#) for the complete article

**Observations to inform future urban operations are drawn from three case studies in this 50-page US staff college monograph - Aachen 1944, Hue 1968, and Ramadi 2006.** The paper begins with a round-up of trends and demographics to argue that cities will be the primary operating environment for the future, and presents the cases, extracting lessons from each. This examination leads the author to four key deductions: operations must strive to keep the area functioning for the population; indigenous groups are best able to resolve local problems; forces need a capability to operate decentralised; and direct firepower is essential. The case studies here are quick, readable overviews, and of note for the inclusion of the lower-intensity Ramadi amongst the warfighting mainstays. This is an informative range of cases which will offer illustrative examples for the trainer.

Keywords: operations, tactical, cimic, germany, iraq, vietnam, aachen, hue, ramadi

#### **The Street Was One Place We Could Not Go: The American Army and Urban Combat in World War 2 Europe**

Beall, The Street Was One Place We Could Not Go: The American Army and Urban Combat in World War 2 Europe, Doctoral Dissertation Texas A&M University, 2014.

Click [here](#) for the complete article

**US Army development of urban combat capability throughout WW2 is examined in this doctoral dissertation, which studies the urban operations of the 1st/3rd/5th Infantry Divisions and analyses how the army incorporated this experience into doctrine and practice.** The 565-page paper reviews the state of urban combat training and doctrine before the war, and charts its development as it is informed by combat experience in North Africa, Italy, and the advance from Normandy to Germany. The author demonstrates that forces became increasingly effective as they incorporated learning from successive operations, and argues that a growing mastery of combined arms cooperation in general had major impacts on effectiveness in urban environments. This is an ambitious and very readable history with a well-developed analysis.

Keywords: doctrine, operations, tactical, combined-arms tactics, aachen, metz

### **16 Cases of Mission Command**

Wright (Ed), *16 Cases of Mission Command, CSI*, 2013.

Click [here](#) for the complete article

**This collection of 16 historical vignettes has been assembled to ‘make tangible and understandable’ the 2012 US Mission Command doctrine, with each case offering a narrative of events and annotations illuminating the six core principles.** Writing for the US Army, the examples in the paper range from the divisional to squad levels and mainly concern US operations/missions in WW2 and Afghanistan. This is a focussed tool for professional development, which will be of interest to the trainer.

Keywords: doctrine, operations, tactical, france, germany, iraq, netherlands, philippines, united states, afghanistan

### **Urban Warfare: Lessons from the Past**

Urban Warfare: Lessons from the Past, Miller, *British Army Review Special Report-Urban Operations-Volume 1 Winter 2018*, 2012.

Click [here](#) for the complete article, via British Army Review special report

**This 14-page journal article presents quick overviews of three urban battles - Hue (1968), Grozny (1999-2000), and Fallujah (2004) - in order to draw observations to inform British Army training.**

The paper begins by dismissing Stalingrad as an outlier in scale and nature, and provides broad overviews of the three cases. A series of bullet-point observations is offered, with the focus being at the tactical level of high-intensity urban battle. This is an informative brief introduction to these cases.

Keywords: tactics, chechnya, iraq, vietnam, fallujah, grozny, hue

### **Urban Ops Fight in the COE: Observations, Insights, and Lessons**

Urban Ops Fight in the COE: Observations, Insights, and Lessons, *Armor*, 2005.

Click [here](#) for the complete article

**This 126-page compilation of journal articles covers recent operations in Iraq, primarily concerned with combat at the tactical level.** Collated by the US Army Centre for Army Lessons Learned, the collection draws articles from US Army corps journals - armour, infantry, artillery, and engineers - covering operations in Iraq over the period 2004-2009, and discussing training initiatives. The editors identify key lessons from the articles: the viability and effectiveness of armour in urban environments; the necessity for armour to operate in conjunction with dismounted infantry; the requirement for communications discipline; drill training of muscle-memory for immediate correct responses from soldiers; and the utility of leveraging all available fires. This collection gives a comprehensive ‘on the ground’ perspective, with insights and vignettes which would be useful for anyone involved in the raising and training of ground forces.

Keywords: tactical, combined-arms tactics, infantry tactics, armour tactics, artillery employment, engineer employment, ttp, iraq

### **FIBUA: Lessons from History**

FIBUA: Lessons from History, Dick, *British Army Review Special Report-Urban Operations-Volume 1 Winter 2018*, 2006.

Click [here](#) for the complete article, via British Army Review special report

**Operations in Hue (1968), Lebanon (1982), and Grozny (1994-96) are scrutinised for lessons to inform British Army practice in this 17-page journal article.** The author focuses on these cases as a likely operational future - regular armies battling a guerrilla enemy who is less concerned with holding ground then making a political point - and examines them with a broad lens encompassing strategic and political considerations as well as tactical observations. Lessons distilled include: the importance of intel and correct identification of enemy COG; the dangers of reliance on excessive artillery and airpower; and the crucial but oft neglected roles of media management and civil affairs. This is a concise, focussed section of cases to highlight the challenges of contemporary urban combat, and its bite-sized insights will be of interest to the trainer.

Keywords: strategy, operations, tactical, chechnya, israel/palestine, lebanon, vietnam, beirut, grozny, hue

### **In Contact! Case studies from the Long War Volume 1**

In Contact! Case studies from the Long War Volume 1, Robertson (Ed), *CSI*, 2006.

Click [here](#) for the complete article

**This 167-page historical anthology presents 7 US small unit actions from Iraq and Afghanistan (2004-05) which are structured for use as training tools.** Writing for the US Army, the authors contextualise the action, describe the unfolding situation with a focus on a central protagonist, identify the dilemma and discuss possible COA. A break in the narrative is made so that training discussions/activities can take place, and then the actual COA taken and resolution are described. This is a strongly structured learning resource which draws on both combat and support personnel experiences and will be of utility to trainers.

Keywords: tactical, iraq, fallujah, mosul, baghdad, tall'afar, afghanistan

### **Capital Preservation: Preparing for Urban Operations in the 21st Century**

Glenn (Ed), *Capital Preservation: Preparing for Urban Operations in the 21st Century*, *RAND*, 2001.

Click [here](#) for the complete article

**This 677-page proceedings paper summarises a RAND/US Defence urban operations conference and presents an introduction to the speakers and annotated copies of their briefings.** Primarily comprising personal recollections of deployments and experience from serving personnel, the paper includes urban operations from: Chechnya, including reflections from the Russian commander (Feb-July 1995); East Timor from the New Zealand perspective; US operational commanders in Bosnia; British experience in Kosovo; and US speakers on operations in Somalia, including the Ambassador, the operational commander, a squad leader, sniper commander, surgeon, and trainers incorporating lessons learned into Ranger practice. This is a broad ranging conference, capturing insights from the strategic to the tactical level.

Keywords: political, strategy, operations, tactical, medical support, sharpshooting/sniping, chechnya, somalia, grozny, mogadishu, east timor, bosnia, kosovo

### **Required Operational Capabilities for Urban Combat**

Bendewald, *Required Operational Capabilities for Urban Combat*, *Naval Postgraduate School*, 2000.

Click [here](#) for the complete article

**This 119-page staff-college thesis considers the Required Operational Capabilities within the proposed US joint urban operations doctrine, and analyses a range of case studies to ascertain whether they are indeed the key elements for planning and executing successful urban operations.** The paper begins with defining the ROC - C3, ISR, Fires, Manoeuvre, and Force Protection - then applies these to the experience of the Israelis in Suez City (1973) and Beirut (1982), and the Russians in Grozny (1994-5, and 1999-2000). The author concludes the effective application of these ROC are essential for success, highlighting C3 as a crucial element, and identifies isolation of the enemy and time for planning as further essentials. This is an illuminating choice of case studies, allowing generalisations within forces, across forces, and over time.

Keywords: doctrine, operations, tactical, intelligence support, combined-arms tactics, chechnya, israel/palestine, lebanon, beirut, grozny, suez city

### **Urban Warfare Study: City Case Studies Compilation (USMC)**

Urban Warfare Study: City Case Studies Compilation, *Intelligence Production Division, Regional Analysis Branch, Europe/Eurasia Section*, 1999.

Click [here](#) for the complete article

**This 52-page article contains an extensive summary of lessons learned from the three 20th century conflict scenarios researched, with strategic, operational, tactical and technical headers.**

The USMC studies three 20th century conflicts fought in urban terrain, in Chechnya, Lebanon and Northern Ireland, devoting one section to each. Rather than describe the conflicts in detail, it lists strategic, operational and tactical lessons which emerged from each conflict, and explains them briefly in context. It summarises overall findings for the benefit of military doctrine writers, trainers and commanders, especially in the USMC. Its focus is practical military considerations but it also considers political outcomes as key and makes reference to their importance throughout. The article is cited in several research papers and continues to have value for military studies.

Keywords: sniper, armour, communications security, amphibious, united states marine corps, usmc, chechnya, russia, lebanon, northern ireland, united kingdom, uk, strategic, operational, tactical, political, command control and communications, c3, psychology, training, rules of engagement, roe, orders for opening fire, ofof, humanitarian, psychological operations, information operations, special forces, doctrine, civil affairs, patrolling, artillery-direct, artillery-indirect, mortar, leadership, intelligence, ambush, helicopter, load carriage (soldier), maps, personal protective equipment, ppe, smoke, machine gun, rocket propelled grenade, rpg, drone, unmanned, home-made weapon, engineer, precision guided weapon, non-lethal, crowd control

### **Urban Operations: Untrained on Terrain**

Burton, Urban Operations: Untrained on Terrain, *US Army Command and General Staff College*, 1998.

Click [here](#) for the complete article

**A scenario for re-taking Seoul is compared and contrasted with historical cases to highlight shortcomings in US urban operations capability in this 167-page staff college thesis.**

The paper presents studies of Stalingrad (1942-43), Belfast (from 1968) and Beirut (1982) before analysing US performance in the hypothetical, and concludes with a range of recommendations for doctrine, training, organisation, and equipment improvement. As the title suggests, this paper is primarily concerned with the challenges of terrain, and only obliquely addresses issues of civilian population.

Keywords: doctrine, operations, tactical, israel/palestine, russia, beirut, stalingrad, ira, seoul, belfast

### **Modern Experience in City Combat**

McLaurin et al, Modern Experience in City Combat, *US Army Human Engineering Laboratory*, 1987.

Click [here](#) for the complete article

**This US Army research paper analyses 22 urban battles from 1942-1982 to identify trends and dominant factors affecting the outcome of MOUT.** The 111-page paper (38 plus appendix) summarises the cases and dissects them for insights regarding engagement, tactics, armour/artillery/airpower contribution, and outcome. The authors make a broad range of findings, considering a range of variables including force size and structure, battle duration, combatants' relationship to the population, and limitations/restrictions on the use of force. Trends identified include the attacker winning at high cost in combat which lasts over a week, and the function of intel/surprise/superior firepower versus the degree of sophistication in prepared defence. This is a readable and well-expressed analysis with an appendix offering descriptions of less well-known cases.

Keywords: statistics, operations, tactical

### **Offensive Operations in Urban Europe: The Need for a 'Heavy' Light Infantry Force**

Kirkland, Offensive Operations in Urban Europe: The Need for a 'Heavy' Light Infantry Force, *US Army Command and General Staff College*, 1985.

Click [here](#) for the complete article

**The capability of US infantry to conduct offensive urban combat operations against a Soviet enemy is evaluated in this 57-page staff college monograph.** Writing for the US Army, the author establishes the necessity for this capability, examines the current doctrinal, organisational, equipment, and training approaches of the belligerents, and reviews Soviet urban defence doctrine. Recent operations are discussed to garner insights - Suez City 1973, Khorramshahr 1980, and Beirut 1982 - and the US light infantry and heavy/mechanised divisions evaluated against these criteria. The paper concludes that neither unit has the capability to perform all missions required within urban combat operations, and recommends the formation of a hybrid, third type of division organised and equipped for this specific task. While focussed on specific cold-war considerations, the analysis in this strongly structured paper remains relevant.

Keywords: concepts, doctrine, operational-level, tactical, iraq, israel/palestine, beirut, suz city, khorramshahr

### **Recent Military Operations on Urban Terrain**

McLaurin & Snider, Recent Military Operations on Urban Terrain, *US Army Human Engineering Laboratory*, 1982.

Click [here](#) for the complete article

**This 78-page research paper elucidates the lessons for MOUT from the battles for Jerusalem (1968) and Suez City (1973) and contends that the preparation of the cities for defence was the single most important variable in explaining their differing outcomes when meeting an Israeli attack.** Writing for the US army, the authors present and compare the case studies then make a range of findings concerning weapons, tactics, C3, and innovations present on the battlefield. The battles illustrate the urban combat advantages conferred upon the defender, and demonstrate that advanced planning and preparation is required to effectively leverage this advantage. This is an illuminating choice of cases which will be of interest to the trainer and military planner.

Keywords: operations, tactical, israel/palestine, jerusalem, suz city

### **Military Operations in Built Up Areas: Essays on Some Past, Present and Future Aspects**

Military Operations in Built Up Areas: Essays on Some Past, Present and Future Aspects, Dzirkals et al, *DARPA-RAND*, 1976.

Click [here](#) for the complete article

**This collection of four essays considers the requirements for defending European cities against a Soviet enemy, explores the reluctance of civil and military officials to plan and prepare such a defence, and examines the tactics developed in WW2 which Soviet forces may be likely to employ.**

A report for the US Department of defence, the paper begins with an essay which sketches six varied and recent urban battles - Prague 1968, Leningrad 1941-43, Cherbourg 1944, Berlin 1945, Aachen 1944, and Sevastopol 1942 - to give insights into the nature of defending cities. The second essay draws on memoirs of commanders in the Soviet offensive 1944-45, in order to understand their approach to urban combat and their evaluation of different combat elements and concepts. Thirdly, the paper explores the reasons and rationalisations given by European military and civilian officials to explain their disinclination to prepare for city fighting. Lastly, the paper offers considerations for defence, with a focus on the sustainment of the civilian population and their role. While dated by its cold-war focus, this is a readable, well-structured report which still offers valuable insights.

Keywords: doctrine, tactical, combined-arms tactics, germany, russia, aachen, berlin, prague, leningrad, cherbourg, sevastopol

## **ANTHOLOGIES**

### **Megacities and the changing character of Urban Combat**

Jensen et al (Eds), *Complex Terrain: Megacities and the changing character of Urban Combat*, USMC University Press, 2019.

Click [here](#) for the complete article

**This 2019 collection of research papers focusses at the strategic/operational levels and explores a range of socio-political concepts confronting military forces in the modern city - including crime, terrorism, domestic unrest, policing, social communications, and understanding systemic complexity. The papers may be summarised separately in this bibliography.**

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**Akrama, Third World Megacities: An Illusion of Control.** A Pakistani Marine Officer presents Karachi as a case study of urbanized ethnic militancy, and explores the utility of hybrid police/military operations in attaining security for populations.

**Gerbracht, Territorialization of the Megacity: Exploiting Social Borders.** This paper examines collective violence manifested as civil disturbance in cities (LA 1992, Paris 2005) and proposes that lessons from the military can be drawn from the practice and strategies of policing.

**Johnson & Markel, The 2008 Battle of Sadr City: Implications for Future Urban Combat.** This paper analyses the successful US operation in Sadr City (Baghdad, 2008) and is a reworking of *The 2008 battle of Sadr City: Reimagining Urban Combat*, Johnson et al, RAND, 2013.

**Simpson, ISIL's Territorial Logic of Urban Control in Mosul and ar-Raqqah: City as a System Analytical Framework.** ISIL's rebuilding of infrastructure and services in these captured cities is analysed to understand the strategic importance of territory to this non-state group.

**Frerichs, Distributed Influence: Enabling Maneuver in a Megacity.** The author contrasts operations in Chechnya and Colombia to argue for the practicality of ‘influence at decisive points’ rather than a ‘mass and attack’ operational concept.

**Barbaree, Coordinating Chaos: Integrating Capabilities in Future Urban Conflict.** This paper calls for an ‘operational art beyond military considerations’ to confront the challenges of urban operations, and envisions effectiveness in inter-agency/organisational cooperation.

**Lynch, Joint Combined Arms Maneuver in the Megacity: Learning to Thrive in Chaos.** Cases are examined (Mali 2013, Lebanon 2006, Kismayo 2008) to propose the organisation of a ‘multi-purpose division’ which will present multiple dilemmas to the enemy across multiple domains.

**Farina, Cyberspace in the Megacity: Thickening the Fog of War?** The empowerment of US enemies through communications/social media mobilisation of localised, simultaneous action is confronted in this paper.

**Borley, Take It, Don’t Break It: A Megacity Concept of Operations.** The control of resources and sustainment is identified as a key element of urban operations, and its siege-like nature is examined through reflection on historical cases and resolutions achieved through treachery, deception, and tunnelling.

**Manning, Symbiotic Warfare: Resource Competition and Conflict.** A systems approach to the relationship between population and sustainment is employed to conceptualise a ‘victory without fighting’ through the control of resources in a city.

**Storm, Air Domain Dominance in a Megacity.** An operating concept of small, distributed air systems is envisaged in this paper, an approach which requires a reconsideration of traditional air theory understandings of ‘victory’.

**Relihan, Virtual Resistance Networks: Enabling and Protecting Electronic Information Flows in the Megacity.** This paper defines the central role of digital communications tech in the city, and discusses how control of its infrastructure has become a critical element of operations.

**Breitenbach et al, The City Prism: A Triangle of Urban Military Operations.** The authors propose a new operational model predicated on the infeasibility of territorial control - a model integrating warfighting, peace operations, and special operations.

### **British Army Review Special Report, Urban Operations Volume 1**

British Army Review Special Report, Urban Operations -Volume 1 Winter, 2018

Click [here](#) for the complete article

**This is a collection of articles previously appearing in the British Army Review. Most articles also appear individually, described in greater detail, in this bibliography.**

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**FIBUA: Lessons from History**, Dick, 2006.

Operations in Hue (1968), Lebanon (1982), and Grozny (1994-96) are scrutinised for lessons to inform British Army practice in this 17-page journal article.

**Some Notes on Fighting in Built up Areas (FIBUA)**, Jenkins, 1983.

Envisaging urban defence against a Soviet invasion of Western Europe, this 9-page journal article seeks to address a paucity of tactical urban doctrine in the British army by providing ‘food-for-thought’ perspectives.

**More notes on FIBUA**, Jenkins, 1984.

TTPs for urban defence are articulated in this 11-page journal article for the British army.

**Are we prepared for the challenge of future operations in the urban Environment?**, Barley, 2000.  
Current British concepts and doctrine regarding emerging urban operations are summarised in this 17-page military journal article.

**Strategies for operations in Cities**, Hills, 2000.

This 15-page journal article for the British Army Review argues that urban operations are primarily a strategic challenge, and calls for a review of basic assumptions and the development of imaginative, integrated responses.

**Urban warfare in the Future: Balancing our Approach**, Owen, 2002.

A USAF Colonel writing in the British Army Review challenges fundamental assumptions of current urban warfare discourse, and argues that a neglect of strategic and operational level guidance needs to be remedied.

**Urban Operations 2004**, Elliot-Square, 2005.

This 11-page British Army journal article offers an overview of tactical level considerations as taught at the Copehill Downs urban training facility (UK).

**Back to Basics: What the British Army should learn from the 2nd Lebanon War**, Owen, 2010.

This 11-page journal article from an Israel based analyst seeks to dispel the simplified, inaccurate narrative of the 2nd Lebanon War (2006) and offers an alternative summary of lessons learned from the conflict.

**Urban Warfare: Lessons from the Past**, Miller, 2012.

This 14-page journal article presents quick overviews of three urban battles - Hue (1968), Grozny (1999-2000), and Fallujah (2004) - in order to draw observations to inform British Army training.

**Urban Warrior meets Whitehall Warrior**, Beattie, 2012.

A British Army officer considers the recent Urban Warrior 3 exercise a missed opportunity to communicate the case for urban conflict preparedness to the policy/political level, in this 7-page paper for the British Army Review.

**The Utility of Force - 5 years On**, Shaw, 2012.

The author of this 7-page journal article reports on a talk by UK General Rupert Smith where he reflects on his book *The Utility of Force* five years on from publication, a talk that argues a paradigm shift in the purpose of warfare requires a whole-government response and institutional change.

**Operation New Dawn: Fallujah**, Shipley, 2013.

US armour/infantry cooperation in the second battle for Fallujah (2004) is hailed as a success in this 6-page journal article, which the author suggests should inform British combined arms TTPs and doctrine.

**The Battles for Aleppo: A Case Study**, Suddaby, 2018.

The battles for Aleppo 2012-2013 are described in this handy primer, which considers the conflict indicative of future urban operations, and offers insights to inform the British army.

**British Army Review Special Report, Urban Operations Volume 2**

British Army Review Special Report, Urban Operations Volume 2 Winter, 2019.

Click [here](#) for the complete article

**This is a collection of articles previously appearing in the British Army Review. Articles also appear individually, described in greater detail, in this bibliography.**

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**Urban Guerrillas: Origins and Prospects**, Stewart, 1979.

The development of the urban guerrilla from a primarily rural theoretical base is charted in this 11-page journal article, which references contemporary events to explore the nature of urban insurgent/revolutionary/terrorist groups.

**Street Fighting in Germany 1945**, Hope, 1985.

The British clearance of the German town of Rees (1945) is described in this 13-page military journal article, and lessons drawn for future urban combat.

**In the Jungle of Cities: Operations in Built-Up Areas**, Jary & Carbuncle, 1999.

This 5-page journal article for the British Army argues that the flame weapon lessons of WW2 need to be relearned to overcome the current dilemma in evicting a committed enemy - the choice between accepting high troop casualties or destroying the urban environment.

**FIBUA- The Tactics of Mistake**, Storr, 2002.

Entrenched approaches to urban combat are challenged in this 4-page military journal article, the author arguing that current doctrine and techniques are based on perceptions contrary to evidence.

**Combat Service Support (CSS) in Urban Operations**, Brown, 2006.

This 9-page journal article for the British Army explores the complexity of delivering logistic support in the urban operating environment and concludes that there is a lack of capability which must be immediately addressed.

**Intelligence Lessons from Hizbollah's Ground Campaign 2006**, Spencer, 2010.

This 21-page article for a British Army journal considers the intel capabilities demonstrated by Hizbollah in the second Lebanon war (2006), and identifies a disciplined, competent force with capacity to degrade and defeat the high-tech edge of western-style forces.

**Lessons from Soviet Urban Operations 1945**, Whitchurch, 2014.

Three aspects of the Soviet Vistula to Oder campaign (JAN 1945) are examined in this 6-page journal article to glean lessons for today's British Army.

**Trieste 1945: Foreshadow of Hybrid War**, Lewis, 2015.

The Allied/Partisan partnership to clear German forces from Trieste is examined in this 9-page article, which demonstrates the challenges of urban, littoral, 'war amongst the people' are not modern phenomena.

**Land Warfare Training and Capability Deficits**, Kelly, 2016.

A British officer considers forces unprepared for urban operations, and identifies a range of training shortcomings in this 15-page article for the British Army Review.

**Ruining Copehill Downs**, King, 2018.

Practical suggestions to transform the urban training facility at Copehill Downs from an 'embarrassment' into one of Europe's premier facilities are offered in this 5-page article for the British Army.

**Urban Operations Package: Applying Strategic Discussion at the Tactical Level**, Durrant, 2016.

A junior officer reflects on his battalion's self-generated urban training package, and offers tactical level lessons learned from the experience in this 9-page journal article.

**Block by Block: The Challenges of Urban Operations**

Block by Block: The Challenges of urban Operations, Robertson & Yates (Eds), CGSC, 2003.

Click [here](#) for the complete article

This 467-page anthology of urban military case studies offers an excellent introduction to the topic, covering the spectrum from combat to humanitarian to disaster relief operations. Written for the US military, the authors present a narrative account seeking to identify lessons which remain relevant today, and highlight the complexity of operating amongst populations in the urban environment. These may be summarised individually in this bibliography.

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- Attacking the Heart and Guts: Urban Operations Through the Ages**, DiMarco, 2003.
- The Battle of Stalingrad**, Lewis, 2003.
- Knock 'em All Down: The Reduction of Aachen October 1944**, Gabel, 2003.
- The Battle of Manila**, Huber, 2003.
- The Battle for Hue, 1968**, Willbanks, 2003.
- The 31 December 1994-8 February 1995 Battle for Grozny**, Thomas, 2003.
- The Siege of Beirut**, Gawrych, 2003.
- The Siege of Sarajevo, 1992-1995**, King, 2003.
- The Takedown of Kabul: An Effective Coup de Main**, Grau, 2003.
- Operation JUST CAUSE in Panama City, December 1989**, Yates, 2003.
- Todo o Nada: Montoneros Versus the Army: Urban Terrorism in Argentina**, Lowe, 2003.
- Humanitarian Operations in an Urban Environment: Hurricane Andrew, August-October 1992**, Brown, 2003.
- Urban Warfare: Its History and Its Future**, Spiller, 2003.

Keywords: stalingrad, aachen, manila, hue, grozny, beirut, sarajevo, kabul, panama, argentina, operations, tactical, civil-military, policing, chechnya, germany, lebanon, philippines, vietnam

**Soldiers in Cities: Military operations on Urban Terrain**

Soldiers in Cities: Military operations on Urban Terrain, Desch (Ed), SSI, 2001.

Click [here](#) for the complete article

**This compendium is the result of a conference on Military Operations in an Urban Environment co-sponsored by the Patterson School of Diplomacy and International Commerce in conjunction with the Kentucky Commission on Military Affairs, the U.S. Army War College, and the Association of the United States Army. Some articles also appear individually, described in greater detail, in this bibliography.**

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**Why MOUT Now?, Desch, Soldiers in Cities: Military operations on Urban Terrain**, SSI, 2001.

The editor of Soldiers in Cities: Military operations on Urban Terrain explains the project/conference which gave rise to that compendium, and offers an explanation for the renaissance of US interest in urban operations.

**Stalingrad and Berlin: Fighting in Urban Terrain**, Weinberg, Soldiers in Cities: Military operations on Urban Terrain, SSI, 2001.

The battles for Berlin and Stalingrad are examined in this 11-page conference paper to extract what are argued to be enduring characteristics of urban warfare.

**Military operations in Urban Environments: The Case of Lebanon 1982**, Tamari, Soldiers in Cities: Military operations on Urban Terrain, SSI, 2001.

The Israeli invasion of Lebanon (1982) is used to illustrate that operational concepts rooted in traditional high intensity urban combat are not relevant to contemporary 'new wars', and that there are no tactical solutions to what are essentially strategic problems.

**Lessons of the war in Chechnya 1994-96**, Levin, *Soldiers in Cities: Military operations on Urban Terrain*, SSI, 2001.

Operational and strategic considerations for future urban conflict - characterised as versus local adversaries strongly rooted in the population - are explored in this 17-page conference paper, which uses examples from the Chechen conflict (1994-1996) to explain and highlight concepts.

**The Battles of Saigon and Hue: Tet 1968**, Wirtz, *Soldiers in Cities: Military operations on Urban Terrain*, SSI, 2001.

Strategic and operational lessons are drawn from the battles for Hue and Saigon (1968) to inform future urban operations, in this 17-page conference paper for the US military.

**The Los Angeles riots of 1992**, Delk, *Soldiers in Cities: Military operations on Urban Terrain*, SSI, 2001.

The military field commander for the National Guard deployment during the LA riots (1992) reflects on the operation and makes general observations to inform future civil-support ops.

**Low-intensity operations in Northern Ireland**, Pearson, *Soldiers in Cities: Military operations on Urban Terrain*, SSI, 2001.

British COIN success - in moving the PIRA from methodologies of violence to solely political action - is characterised as an outcome of strategic and operational flexibility in this 17-page essay.

**Military operations in an urban Environment: Beirut 1982-84**, Trainor, *Soldiers in Cities: Military operations on Urban Terrain*, SSI, 2001.

A retired USMC General recounts the disastrous marine peacekeeping deployment in Beirut (1982-84), and offers an analysis of the reasons for failure.

**Emerging technologies and military operations in Urban Terrain**, Yonas & Moy, *Soldiers in Cities: Military operations on Urban Terrain*, SSI, 2001.

This 7-page conference paper spruiks tech solutions for urban operations, identifying three primary areas of contribution - precision information, smart robots, and non-lethals.

**Urban Operations: Social meaning, the urban built form, and economic Function**, Neiman, *Soldiers in Cities: Military operations on Urban Terrain*, SSI, 2001.

This 9-page conference paper for the US military applies concepts and insights from urban planning to suggest how urban operations can be better informed.

**Urban Operations: Tactical realities and strategic Ambiguities**, Posen, *Soldiers in Cities: Military operations on Urban Terrain*, SSI, 2001.

The implications of the new US emphasis on urban operations are explored in this 17-page conference paper, the author arguing that an undeveloped strategic rationale gives little guidance for preparation.

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## GEOPOLITICS, POLITICS AND STRATEGY

### **Geometry of the Circle: Security Interventions in the Urban Gray Zone**

Hoffman, Geometry of the Circle: Security Interventions in the Urban Gray Zone, *Current Anthropology*, 2019.

Click [here](#) for the complete article

**This 10-page journal paper examines the disastrous ebola “cordon sanitaire” operation in the slums of Monrovia, Liberia (2014), and scrutinises emerging western security doctrine and its ‘fantasies that local proxies can somehow navigate the gray zone’.** Writing for a social sciences audience, the author provides an overview of the operation, reviews current military conceptualisation of the gray zone and megacity operations, and charts the development of urban asymmetric paradigms which look to leverage proxy/surrogate/partner forces. The paper argues that ‘co-opted war machines’ are no more able to mirror enemy capability than American forces themselves, and end up doing what every interventionist force does - draw a circle, making everything within it the enemy. An interesting perspective on employment of local forces.

Keywords: strategy, theory, operations, isolation, cordon

### **The Strategic Challenges of Urban Warfare**

Niksich, The Strategic Challenges of Urban Warfare, *School of International Studies-University Denver*, 2017.

Click [here](#) for the complete article

**This 119-page international studies thesis examines the relationship between policy/strategy/operations/tactics, and analysis two urban battles – Gaza 2014, and Mosul 2016-17 – to illustrate how on-the-ground operations link to the attainment of political goals.** Writing for a civilian audience, the paper discusses in depth the definition, scope, and interrelationship of these levels of warfare, and presents an overview of the theory and nature of modern urban operations. The two case studies are presented and discussed. The author argues that better understanding by civilian government officials of how their strategy and ROE impact TTPs and SOPs will make it easier for combat troops to conduct urban missions. This is a readable paper argued with reference to theory and contemporary operations, and will be useful to inform the dialogue between policy makers and military planners.

Keywords: political, policy, strategy, operations, israel/palestine, mosul

### **Future War in Cities: Urbanisation’s Challenge to Strategic Studies in the 21st Century**

Evans, Future War in Cities: Urbanisation’s Challenge to Strategic Studies in the 21st Century, *International Review of the Red Cross* 98, (2016), ISS. 1, 37-51.

Click [here](#) for the complete article

**This fifteen-page online journal article examines the tactical necessity for increased interdependence between strategic urban policy design, and our understanding of the science of cities.** A long document in formal prose, it consists of two main headings, including abstract. Published by the International Review of the Red Cross, this article seeks to fill a perceived gap in Western strategic literature, via shift from operational ramifications in megacities, toward a more holistic perspective amenable to the heightened fluidity and unpredictability of urban conflict settings. Utilising secondary sources, including studies from the United Nations and United States Army, it propounds improved cooperation between security and humanitarian counterparts, for the purpose of enhanced force adaptability and operational planning. This article would therein be useful for military strategic planners and urban studies specialists.

Keywords: humanitarian, civic

### **Urban Warrior Meets Whitehall Warrior**

Urban Warrior Meets Whitehall Warrior, Beattie, *British Army Review Special Report-Urban Operations-Volume 1 Winter 2018*, 2012.

Click [here](#) for the complete article, via British Army Review special report

**A British Army officer considers the recent Urban Warrior 3 exercise a missed opportunity to communicate the case for urban conflict preparedness to the policy/political level, in this 7-page paper for the British Army Review.** The author frames the need for a consistent rationale and 'instinctive lobbying' on the point, and dismisses urbanisation growth per se as a convincing argument, instead identifying future ops as struggles for influence amongst the convergence of people/politics/infrastructure/resources/enemies. Urban Warrior 3 is reflected upon from the perspective of the senior policy observers - an overwhelming tactical experience which leaves unanswered strategic questions. The paper concludes that support for change will require the military to demonstrate how politically logical and policy-compliant developments will necessarily embroil British forces in urban combat.

Keywords: political, policy

### **The Urban Battlespace**

The Urban Battlespace, Graham, *Theory, Culture and Society*, 2009.

Click [here](#) for the complete article

**The emerging Western military/security doctrine of the boundless and endless "battlespace" is explored through its manifestations in the Mumbai attacks, and its implications for the everyday spaces and circulations of cities scrutinised in this 11-page journal article.** The paper conceptualises three outcomes of the battlespace paradigm: the framing of urban terror attacks as parts of trans-national info ops, and how this positions the politics of fear as an integral doctrinal element; the blurring of local/global, inside/outside of the state, policing/military/state intelligence, until battlespace includes everything; and the hyper-militarisation of everyday life where urban sites are emphasised as threats and the only perception of 'other' is as a target. Graham brings a considered inter-disciplinary perspective which challenges assumptions and provokes discussion, and is always well worth the read.

Keywords: political, policy, strategy, doctrine, mumbai

### **Combat in Hell: Cities as the Achilles Heel of US Imperial Hegemony**

Dawson, *Combat in Hell: Cities as the Achilles Heel of US Imperial Hegemony*, Social Text, 2007.

Click [here](#) for the complete article

**This 20-page social-sciences journal essay confronts evolving US urban operations doctrine as a symptom of fading colonial hegemony, and views the readiness to unleash force on the cities of the developing world as an indicator of fading influence rather than a display of strength.**

The author observes the mirroring of dreams of 'full spectrum dominance' in the failed occupation of Iraq, and identifies the developing focus of military engagement in cities as a familiar historical discourse desiring to 'map, contain, and control urban spaces and society'. The paper identifies the conceit that urban asymmetrical guerrilla warfare is a 'dastardly plot' to avoid US might, rather than the result of myriad economic and cultural drivers. This is a spirited essay which rails against the insidious application of warfare techniques and rationales to the civilian space, and offers a refreshing counterpoint to military discourse which can be prone to echoing.

Keywords: policy, strategy, doctrine

### **The New Military Urbanism**

Graham, The New Military Urbanism, The New Blackwell Companion to the City, 2011.

Click [here](#) for the complete article (Academia.edu)

**Geographer and author Stephen Graham cautions against a new, insidious militarism pervading urban life and positioning everyday sites, circulations and activities as the main battlespace of state and nonstate violence.** The paper explicates the four key foundations of this new military urbanism: the blurring of separation between home cities and colonial frontiers where both become subject to similar logic of re-organisation and securitisation; the highly lucrative nature of the industrial-security complex and its financial motivations to perpetuate the surveillance and targeting of urban space; the appropriation of everyday architecture and infrastructure as a means of waging war and amplifying political violence; and the legitimisation of militarism through fusing with and co-opting popular culture. The author argues this conceptualisation deems cities to be intrinsically problematic spaces in a self-perpetuating cycle of threat and control. Offering an interesting counter from a different disciplinary perspective, this contribution from Graham is concise and particularly accessible to the non-academic.

Keywords: political, policy, strategy, theory, civil-military

### **Cities and the ‘War on Terror’**

Cities and the ‘War on Terror’, Graham, International Journal of Urban and Regional Research, 2006.

Click [here](#) to request the article

**Geographer Stephen Graham identifies the development of a binary discourse in relation to cities - a positioning of US cities as ‘homeland’ places requiring re-engineering for national security, and the construct of middle eastern cities as barbaric and threatening places and ‘nests of terrorism’.** In this 21-page journal article the author explores this reworking of US cities through securitisation of public spaces newly framed as places of fear, examines the ‘othering’ of Arab cities through their vertical representation as impact points and targets devoid of street level humanity, and the perpetuation of colonial tropes by the state, media, computer gaming, and military training simulation. The paper addresses the doctrinal and tech-industry bundling of all cities into the “battlespace,” an endless area of operation requiring persistent surveillance and the development of automated killing technology. Graham concludes this false dichotomy forges exclusionary, nationalistic, and yet imaginary communities, continuously in tension with the reality of Arab/US city links and the cosmopolitan nature of urban areas. While for an academic audience and requiring a more energetic read, this paper offers incisive and provocative insights into the urban threat and the urban enemy.

Keywords: political, policy, theory

### **Deconstructing Cities: Military Operations in the Urban Era**

Hills, Deconstructing Cities: Military Operations in the Urban Era, *The Journal of Conflict Studies*, 2002.

Click [here](#) for the complete article

**The need to focus attention on developing strategy for operating in cities is emphasised in this 19-page journal article, which highlights urban operations as inherently political.** Writing for a western military/policy audience, the author argues that a tactical focus leaves forces unprepared, and that future operations will require a politically coherent policy acknowledging cities as strategic sites and requiring an understanding of the human architecture. The paper queries existing assumptions, and explores the complicating factors of cities - the existence of alternative governance and unfamiliar political authority, the complexity of networks and relationships, and the presence of civilians. This is a very readable paper illuminated by contemporary examples.

Keywords: political, strategy, operations

### **Military Operations in an Urban Environment: Beirut 1982-84**

Military Operations in an Urban Environment: Beirut 1982-84, Trainor, *Soldiers in Cities: Military operations on Urban Terrain*, SSI, 2001.

Click [here](#) for the complete article

### **A retired USMC General recounts the disastrous marine peacekeeping deployment in Beirut (1982-84), and offers an analysis of the reasons for failure.**

In a concise 9-page essay the author provides background to the intervention and a critical narrative to chart the transition from peacekeeper to enemy, addressing strategic/mission incoherence, intelligence failures, and self-defeating command structures. The paper concludes that the failure to understand the nature of the civil war undermined effective planning and intelligence effort. This is a cautionary piece that describes some ongoing problems US and international peacekeeping forces have continued to face ever since.

Keywords: strategy, operations, intelligence support, civil-military, policing, lebanon, beirut

### **Strategies for operations in Cities**

Strategies for operations in Cities, Hills, *British Army Review Special Report-Urban Operations-Volume 1 Winter 2018*, 2000.

Click [here](#) for the complete article, via British Army Review special report

### **This 15-page journal article for the British Army Review argues that urban operations are primarily a strategic challenge, and calls for a review of basic assumptions and the development of imaginative, integrated responses.**

The paper articulates the political nature of conflict in cities, and identifies three key issues: the challenge of understanding complex urban systems; the difficulties in recognising unfamiliar configurations of political authority; and the control of civilians. The author argues that the problems of urban warfare may be a result of the logic of the current approach and that solutions may only be possible through a restructuring of this logic. The metaphor of escalation is offered as a prompt to encourage imaginative planning superior to the simple identification of military options available. Illustrated with reference to recent operations, this is a plain language piece which may offer an alternative perspective to military thinkers to drive creative solutions.

Keywords: strategy, operations, civil-military

### **Urban Operations: Tactical Realities and Strategic Ambiguities**

Urban Operations: Tactical Realities and Strategic Ambiguities, Posen, *Soldiers in Cities: Military operations on Urban Terrain*, SSI, 2001.

Click [here](#) for the complete article

### **The implications of the new US emphasis on urban operations are explored in this 17-page conference paper, the author arguing that an undeveloped strategic rationale gives little guidance for preparation.**

The paper presents the tactical realities of urban warfare - highlighting the infantry densities required and querying the sustainability of casualties - and describes strategic ambiguities present across the spectrum of urban ops. The requirement for standing, specialised units for COIN/Peacekeeping is argued, the paper concluding that creative alternatives to urban deployments need to be found wherever possible. This is wide ranging, frank discussion of purpose and practicality, and will be of interest to the planner.

Keywords: strategy, operations

### **Military Operations on Urbanized Terrain: A Strategic Readiness Challenge**

Rogers, Military Operations on Urbanized Terrain: A Strategic Readiness Challenge, *US Army War College*, 1999.

Click [here](#) for the complete article

**This 42-page US army war college paper argues the necessity of preparing for urban warfare and proposes broad initiatives in doctrine and training, while exploring the contradictions and restraints which make this such a complex task.** The paper articulates the challenge of waging urban warfare within an expectation of quick victory, low casualties, and minimum devastation, and critiques current doctrine and training. The author argues that improvements here offer the greatest opportunity for improved capability, whereas tech initiatives are not likely to significantly alter the character of urban warfare in the short -term, and their effectiveness is degraded by the urban environment in any case. This is a broad, general overview of the topic which speaks frankly to the issue.

Keywords: strategy, doctrine

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## OPERATIONAL LEVEL CONDUCT AND PLANNING

### Operational Art in the Megacity

Fritze, Operational Art in the Megacity, *US US Army Command and General Staff College*, 2019.

Click [here](#) for the complete article

**This 52-page staff college thesis analysis the battles for Grozny (1994) and Fallujah (2004) to highlight critical elements of operational art, and examines current US army and joint doctrine to determine if these elements are supported for effective usage in megacities.** The paper begins with an overview of the current treatment of megacities in doctrine, and then presents the two case studies drawing from them lessons for the proper application and execution of operational art in the urban environment. The author suggests essential elements - basing, operational reach, arranging operations and tempo - are not adequately supported for use in a megacity, and that specific doctrine needs to be developed as it cannot simply be 'scaled up'. This paper offers a brisk critique of operation-level performance in the two case studies, and will be of interest to the operational planner and the writer of doctrine.

Keywords: doctrine, operations, chechnya, iraq, fallujah, grozny

### Coordinating Chaos: Integrating Capabilities in Future Urban Conflict

Barbaree, Coordinating Chaos: Integrating Capabilities in Future Urban Conflict, *Complex Terrain: Megacities and the changing character of Urban Combat*, Jensen et al (Eds), Marine Corps University Press, 2019.

Click [here](#) for the complete article

**The necessity for a civil-military integrated operational concept to address urban conflict is highlighted in this 15-page journal paper, which tracks developments in this respect across recent cases.**

Writing for the US military, the author establishes that city complexity is beyond the capability of an exclusively military response, and examines developing joint/multi-agency/coalition/inter-disciplinary synergies in the cases of Fallujah (2014), Sadr City (2008), and Mosul (2016). The paper acknowledges the challenges to unified action by dissimilar agencies, and identifies an essential role for professionalised liaison officers and an essential culture of proactive connection between counterparts. This is a concise paper which moves beyond conceptualising and begins to consider the practical implications of multi-actor operations, and offers food-for-thought to the planner and writer of doctrine.

Keywords: theory, operations, civil-military, iraq, fallujah, mosul, sadr city

### Urban Battle Command in the 21st Century

Glenn & Kingston, Urban Battle Command in the 21st Century, *RAND*, 2005.

Click [here](#) for the complete article

**In this 138-page research paper commissioned by the US Army the authors explore the command and control impediments posed by modern urban operations, and make recommendations for improvements to doctrine, training, and procedure.** The paper begins with tactical and operational level vignettes from the 1993 recovery of the 'black hawk down' units in Mogadishu, and proceeds to critique current US C2 urban doctrine. The authors then consider the specific challenges posed by the urban environment to operational command, tactical command, control, ISR, and coms, and make recommendations for improvement. The paper argues current doctrine is inadequate for modern urban operations, which demand a wider range of responses from commanders who are required to embrace

social/political/economic considerations in addition to military ones. This is a well-argued paper illustrated with operational examples and pertinent quotes, and will be of utility for the operational planner and the writer of doctrine.

Keywords: strategy, doctrine, operations, tactical, somalia, mogadishu, c2, c4isr

### **Standing at the Gates of the City: Operational Level Actions and Urban Warfare**

Everson, *Standing at the Gates of the City: Operational Level Actions and Urban Warfare*, *US Army Command and General Staff College*, 1995.

Click [here](#) for the complete article

**This 59-page staff college monograph uses the Operational Operating Systems framework to analyse case studies - Seoul 1951, Panama City 1991, and Mogadishu 1993 - and argues that the foundations for tactical success lie at the operational level.** Writing for the US military, the author reviews urban warfare theory, US Army doctrine, and the functions of the six operating systems. The paper then presents the three historical studies and draws conclusions regarding the relationship of the operational and tactical levels of urban combat. The author suggests that the preoccupation with tactical problems induces planner/commander myopia, and that the conditions for success or failure are established at the operational level prior to tactical action. This is an informative analysis of varied historical cases, and will be of use to the operational planner and the writer of doctrine.

Keywords: doctrine, operations, tactical, seoul, panama, somalia, mogadishu

### **Operational Art and Military Operations on Urbanized Terrain**

Goligowski, *Operational Art and Military Operations on Urbanized Terrain*, *US Army Command and General Staff College*, 1995.

Click [here](#) for the complete article

**Doctrine, theory, commentary and case studies are synthesised in this 65-page staff college monograph in order to identify and discuss the key issues to be resolved to improve US urban operations capability.** Writing for the US army, the author describes the contemporary MOUT environment, and presents three case studies to illustrate the scope of urban missions: combat against conventional forces in Hue, 1968; peace-making and peace-keeping in the Dominican Republic 1965-66; and support to civil authority in Northern Ireland 1969-85. Concepts for the planning of urban operations are explored under an aims/ways/means/risks structure, and the paper concludes by urging examination and refinement of doctrine, training, organisation and equipment. This is a wide-ranging, general discussion of operational level challenges, filled with quotable quotes and drawing together a range of perspectives.

Keywords: doctrine, operations, vietnam, hue, dominican republic, northern ireland

## **MODELS, CONSTRUCTS AND CONSIDERATIONS**

### **The Smart City: Achieving Positions of Advantage During Large-Scale Urban Combat Ops**

Ling, *The Smart City: Achieving Positions of Relative Advantage During Urban Large-Scale Combat Operations*, *US Army Command and General Staff College*, 2019.

Click [here](#) for the complete article

**This 156-page staff college thesis identifies the Smart City urban design concept as a model which can be brought to the planning and conduct of urban military operations, and illustrates its utility with reference to the battle for Manila (1945).** The paper presents the Smart City model,

explains its evolution and characteristics, and argues its applicability to urban combat in cities. The author then draws three operational challenges from the Manila case study - protection of key infrastructure, fire as an obstacle to manoeuvre, and civilians on the battlefield - and discusses how the model offers techniques to deal with these. The paper notes that the US lacks doctrine for offensive operations in large cities, and calls for an educational and organisational focus on urban studies within the army skill-set. This is a carefully crafted thesis applying up-to-date thinking to the military context, and will be of interest to the writer of doctrine, and planner.

Keywords: doctrine, operations, philippines, manila

### **The City Prism: A Triangle of Urban Military Operations**

Breitenbauch et al, Jensen et al (Eds), *The City Prism: A Triangle of Urban Military Operations, Complex Terrain: Megacities and the changing character of Urban Combat*, Marine Corps University Press, 2019.

Click [here](#) for the complete article

### **The full spectrum of military operations is represented in an innovative model in this 32-page journal paper, and the implications for urban operations are explored using this framework.**

The authors - writing for a USMC urban anthology - present the operational triangle model, upon which can be plotted the continuum of operations by distinguishing three overriding attributes - does it seek territorial control, does it require policing work, and does it take place in a very hostile environment. These requirements position action between three 'ideals' - combat ops, peace ops, and special ops - and these are applied to the urban environment, the analysis producing dynamic mixing hybrids: policing and stabilisation. The paper concludes that urban dynamics will press operations to the special ops corner of the spectrum, given that territorial control becomes unattainable. This is less dry than it sounds, and presents a clear model with a strong analysis.

Keywords: operations

### **Alternative Governance Structures in Megacities: Threats or Opportunities?**

Chido, *Alternative Governance Structures in Megacities: Threats or Opportunities?*, US Army War College, 2016.

Click [here](#) for the complete article

**This 76-page research paper explains the importance of understanding the Alternative Governance Structures which operate in mega-cities, so that military forces can co-operate with them as opportunities to support goals, or undermine them as a threat.** Writing for the US Army, Chido uses case studies and a wide range of examples to explain what AGS are, why they form, and their general characteristics. The paper then discusses the range of existing models for measuring governance in mega-cities, and concludes with recommendations to create a 'toolbox' to understand and identify the threat or opportunity posed by AGS. The author suggests that AGS always exist in parallel with – or in place of – centralised state control, and that increased understanding will enhance resource allocation, enable conflict to be managed before it becomes violent, and allow forces to identify the true centres of gravity within a population. This paper will be of particular interest to operational planners, and writers of doctrine.

Keywords: strategy, doctrine, intelligence support, civic, policing

### **Humanitarian Interventions in Situations of Urban Violence**

Lucchi, *Humanitarian Interventions in Situations of Urban Violence*, ALNAP, 2014.

Click [here](#) for the complete article

**This 28-page paper distils lessons learned by the humanitarian sector regarding operations in urban conflict environments.** Drawing insights from a review of case studies and evaluations, the author

presents a range of recommendations to inform program design encompassing strategic, partnership/relationship, analysis/assessment/targeting, and security considerations. Sector specific observations include protection, health, shelter, and livelihood support for urban populations. This is a practical, on-the-ground contribution to informing the strategic commander, operational planner, logistician and writer of doctrine.

Keywords: concepts, operations, civil-military

### **Heavy Matter: Urban Operations' Density of Challenges**

Glenn, Heavy Matter: Urban Operations' Density of Challenges, *RAND*, 2000.

Click [here](#) for the complete article

**This 62-page research paper commissioned by the US Army proposes a new way of engaging the complexity of urban operations by considering the densities inherent in the environment, and managing these or leveraging them to advantage.** The paper begins with a general discussion of the influence of different densities on operations, including densities of population, refugees, structures, firing positions, and friendly and enemy forces. Next the author offers five approaches to address these challenges: matching density with density; effectively reducing density; maintaining selected densities, particularly by isolating the enemy; addressing density asymmetrically; and capitalising on densities. The paper concludes with an application of these approaches to C4ISR and Info Ops as an example. This is a highly readable paper enhanced with anecdotes and observations from operations, and of interest to the planner and writer of doctrine.

Keywords: doctrine, operations, tactical, intelligence support, information operations

### **In Search of a Joint Urban Operational Concept**

Grubbs, In Search of a Joint Urban Operational Concept, *US Army Command and General Staff College*, 2000.

Click [here](#) for the complete article

**Operational shock theory is championed as the basis of a new operational concept for large scale urban operations in this 72-page US staff college monograph.** The author argues that historical and current US models for urban operations are deficient in an operating environment that has low tolerance for non-combatant casualties and widespread destruction, and identifies the requirements for a joint urban ops concept before reviewing operational shock/cyber shock/system theories as a viable alternative. The paper proposes such a model, and present critical aspects - systems control focus, manoeuvre against decisive points, simultaneity, depth, and achieving both mechanical and cognitive effect - in relation to joint doctrine, critical point analysis and the nature of the urban environment. This is a dense paper illustrated by reference to historical operations, and will be of interest to the write of doctrine and military planner.

Keywords: doctrine, operations, intelligence support

### **Mission Analysis During Future Military Operations on Urbanized Terrain**

Burleson, Mission Analysis During Future Military Operations on Urbanized Terrain, *US Army Command and General Staff College*, 2000.

Click [here](#) for the complete article

**This 89-page staff college thesis surveys doctrine, commentary and case studies - Aachen 1944, Manila 1945, Hue 1968, Panama City 1989, Mogadishu 1993, and Grozny 1995 - to identify recurring characteristics of urban warfare which can be used to inform planning.** Writing for the US military, the author extracts and lists these considerations, then applies them to the Mission Analysis step

of the Military Decision-Making Process. This paper focusses at the division/brigade level of operations and on fire support/manoeuvre/Intel/C2 systems, and offers a well-structured, practical contribution which will be of interest to the operational planner and the writer of doctrine.

Keywords: operations, doctrine, chechnya, germany, philippines, vietnam, aachen, grozny, hue, somalia, manila, panama city, mogadishu

### **Urban Warfare at Operational Level: Centres of Gravity and Key Nodes**

Mccleskey, Urban Warfare at the Operational Level: Identifying Centres of Gravity and Key Nodes, *Air Command and Staff College*, 1999.

Click [here](#) for the complete article

**This 71-page staff college paper demonstrates Warden's Five Ring Analysis as a tool for identifying COG in a range of urban mission types, and suggests this methodology is effective in moving analysis from the tactical level to the operational.** The author summarises world population trends and their implications for forces, and then explains Warden's Five Ring Analysis as a model for planning operations. The model is then applied to different urban mission types - non-combatant evacuations, apprehension of individuals, and attacking nuclear weapons production capability – and target sets extracted from the analysis. The paper argues that a tactical emphasis has left a void at the operational level, and a framework is needed to enable the joint force commander to effectively concentrate force. The worked examples are effective demonstrations of the model, and will be of interest to planners and writers of operational doctrine.

Keywords: doctrine, operations, intelligence support, targeting

### **MOUT Art: Operational Planning Considerations for MOUT**

Preysler, MOUT Art: Operational Planning Considerations for MOUT, *US Army Command and General Staff College*, 1995.

Click [here](#) for the complete article

**Historical analysis of the battles for Manila (1945) and Panama (1989) is used to highlight critical operation planning considerations for offensive urban operations in this 60-page US staff college monograph.** The paper considers the contemporary MOUT operating environment and reviews current doctrine before examining the two cases to draw essential elements for success: detailed planning; accurate intelligence; appreciation of cost in time, casualties, and destruction; constraints/restrictions; the requirement for overwhelming superiority; the essentiality of isolating the enemy; and the requirement for surprise. The author concludes doctrine is insufficient for the challenge, and provides a frank clear assessment which will be of interest to the planner and writer of doctrine.

Keywords: doctrine, operations, philippines, manila, panama

## **PROPOSED APPROACHES**

### **Divisions in Large Scale Urban Battle**

Fiore, Divisions in Large Scale Urban Battle: The Essential Headquarters, *US Army Command and General Staff College*, 2019.

Click [here](#) for the complete article

**This 59-page staff college paper envisages a division engaging in contemporary offensive combat for control of a city and draws observations from two recent battles to illuminate**

**approaches, priorities and considerations.** Writing for the US military the author reviews the doctrinal and national security developments focusing urban operations at the divisional level. Drawing from historical observations, an events template of urban battle is constructed with which to dissect divisional performance in the battles of Grozny (1994) and Baghdad (2003), before these insights are applied to a portrayal of a US Division in a future large-scale urban offensive. The paper argues that with the right approach and rigorous planning effective, low-casualty/low-collateral-destruction combat can be conducted to achieve tactical control and strategic success. This is a strongly structured and readable paper with insights which may be of utility for the operational planner, and writer of doctrine.

Keywords: strategy, doctrine, operations, chechnya, iraq, grozny, baghdad

### **Exploring New Concepts for Joint Urban Operations**

Wahlmann et al, Exploring New Concepts for Joint Urban Operations, *Institute for Defense Analyses*, 2003.

Click [here](#) for the complete article

**This report details a series of tabletop wargames conducted for the US Department of Defence to explore alternative methods for the taking of a city.** The paper defines the operational concepts utilised - precision strike, nodal capture, nodal capture and expansion, soft point capture and expansion, segment and isolate, nodal isolation - and describes the gaming scenarios, forces, actions and results. The participants distil a list of operational requirements common to all scenarios, and observe that a blend of the new methods seem to have advantages over traditional concepts. This 272-page summary (35 + appendices) will be of interest to those developing training for urban operations.

Keywords: operations

### **Isolate Before an Urban Attack**

Wille, Isolate Before an Urban Attack, *US Army Command and General Staff College*, 2001.

Click [here](#) for the complete article

**This 67-page monograph argues the essentiality of isolating the enemy and uses the Russian experience in Grozny 1994-2001 as a case study to illustrate its effectiveness.** Writing for a US military audience, the author summarises the need to prepare for urban operations, the characteristics of the urban environment, and the history of Russian operations in Chechnya. The paper then examines the five factors of isolation - denial of internal and external support, disruption of C4I, control of key infrastructure, establishment of legitimacy to psychologically isolate the enemy from non-combatants, and control of approaches and key terrain – with reference to Russian success and failure. The author concludes that Russian improvements throughout the course of the conflict in isolating the Chechens caused the disintegration of units and, finally, their defeat. This is an examination of a fundamental doctrinal imperative which will be of interest to the operational planner.

Keywords: doctrine, operations, information operations, isolation, chechnya, grozny

### **Operational Isolation of the Enemy in Offensive Urban Operations**

Wille, Operational Isolation of the Enemy in Offensive Urban Operations, *Naval War College*, 2000.

Click [here](#) for the complete article

**In this 23-page staff college paper the author argues that isolation of the enemy is the single most important factor in ensuring success in urban operations, and explores the components required for successful isolation.** Written for the US military, the paper draws examples from the on-going Russian experience in Chechnya to illustrate five crucial tasks: cutting off logistics and support;

degrading enemy C4I; securing key infrastructure; establishing legitimacy with the population; and tightly controlling the battlespace. This is a focussed, readable piece which the author develops further in a 2001 SAMS paper - Isolate before an urban Attack. <https://apps.dtic.mil/dtic/tr/fulltext/u2/a403854.pdf>

Keywords: operations, tactical, isolation, chechnya, grozny, information operations, cimic

### **Attacking Cell Phones with Sabots: Disintegration of Assymetrical Urban Threat in 2025**

Green, Attacking Cell Phones with Sabots: Disintegration of an Asymmetrical Urban Threat in the Year 2025, *US Army Command and General Staff College*, 1998.

Click [here](#) for the complete article

**Disintegration theory and its utility in generating tactical options against an asymmetric urban threat is explored in this 59-page monograph, the concepts being illustrated in an analysis of the 1993 Black Hawk Down battle of Mogadishu.** Writing for the US army, the author examines the Army After Next project wargaming and tactical methods to determine if this future-model has the ability to conduct disintegration in urban terrain, and recommends additions and adjustments to this effect. The paper argues that cybershock targeting will paralyse enemy system control mechanisms, enhancing the effect of conventional attrition and manoeuvre and causing the enemy to disintegrate more rapidly, and that this was conducted effectively by Somali irregulars against the US Task Force Ranger in Mogadishu. This is an accessible overview of the concept and an interesting angle on a much-explored case study, which may be of interest to the operational planner.

Keywords: operations, tactical, somalia, mogadishu

### **Light Infantry in the Defence of Urban Europe**

Sherfey, Light Infantry in the Defence of Urban Europe, *US Army Command and General Staff College*, 1986.

Click [here](#) for the complete article

**In a 96-page monograph Sherfey examines four historical case studies - Jerusalem 1967, Suez City 1973, Kharramshahr 1980, and Beirut 1982 – and analyses current capabilities to conclude that the US Light Infantry Division can successfully defend urban terrain against Soviet attack.**

This US army staff college paper reviews the demographic trends making urban battle inevitable in western Europe, and summarises both Soviet offensive doctrine/capability and US defensive doctrine/experience. The case studies are presented and used to frame an analysis of Light Division doctrine, training, organisation, and equipment. The author concludes successful defence is achievable, despite shortcomings in doctrine and training, the paucity of engineers, and the need for a shoulder-fired anti-tank/breaching weapon. While dated by its cold war focus, this paper's comparison of opposing offense/defence doctrines and the inclusion of less-visited case studies make it of interest, and it will be of utility to the writer of doctrine.

Keywords: doctrine, operations, tactical, infantry, israel/palestine, lebanon, beirut, suz city, jerusalem, kharramshahr

### **A Proposed Doctrine for the Attack of a Built-up Area by a ROAD Division**

Hampton, A Proposed Doctrine for the Attack of a Built-up Area by a ROAD Division, *US Army Command and General Staff College*, 1966.

Click [here](#) for the complete article

**Drawing on insights from WW2 cases (primarily Brest 1944), this 126-page staff college thesis evaluates the adequacy of US doctrine for attacking a city, and proposes concepts to fill the identified gaps.** The author presents a narrative of the Brest siege and from it draws a range of

considerations which are discussed in conjunction with observations from Stalingrad, Berlin, and Aachen. The paper then applies these to current doctrine, highlighting shortcomings and proposing doctrine for: the surprise thrust to the centre; encirclement/isolation; infiltration; intelligence; and the allocation of sufficient force for multiple ruptures of the enemy defence. This is a strongly structured paper with recommendations very much styled after the unrestrained combat of the Second World War. (ROAD is Reorganisation Objective Army Division, an airmobile force concept introduced in 1965).

Keywords: doctrine, operations, envelopment, isolation, infiltration, thrust, france, germany, russia, berlin, stalingrad, brest, aachen

### **A Doctrine for Defense of a Major Urban Population Centre by Division and Larger Units**

Sawyer, A Doctrine for Defense of a Major Urban Population Centre by Division and Larger Units, *US Army Command and General Staff College*, 1964.

Click [here](#) for the complete article

**World War 2 urban defensive battles are analysed in this 213-page staff college thesis, to generate doctrine for the defence of cities.** The paper examines the battles of Aachen, Berlin, Stalingrad and the Brittainy fortresses, and draws doctrinal insights regarding personnel, logistics, civil affairs, intelligence, and operational planning. Three schemes of defence are contrasted, with the author recommending a 'free defence' rather than a fortress-based conceptualisation. This is a readable paper which offer concrete recommendations, and will be of interest to the writer of doctrine.

Keywords: doctrine, operations, intelligence support, civil-military, germany, aachen, berlin

## **SYSTEMS APPROACHES AND COMPLEXITY**

### **Dense Urban Environments: What Does the Operational Environment Look Like?**

York, Dense Urban Environments: What Does the Operational Environment Look Like? GCSC, 2019.

Click [here](#) for the complete article

**Through analysis of two case studies - Seoul 1950, Baghdad 2003 - this 74-page monograph looks to identify the divisional planning considerations required to reduce operational impact on the systems and infrastructure of dense urban environments (DUE) and megacities.** Writing for the US military, the author reviews current doctrine and the characteristics of DUE, then uses the case studies to highlight oversimplifications in the 'urban triad' doctrinal model. The paper argues the case studies illustrate the importance of preserving networks and balancing the preservation of infrastructure versus the destruction of enemy, and that a systems-based framework is required to capture the large number of nodes and connections between the discrete categories of the current model. This is a clearly structured critique of current doctrine, with concrete suggestions for improvement, and will be of interest to the operational planner and the writer of doctrine.

Keywords: strategy, doctrine, operations, cimic, iraq, baghdad, seoul

### **Managing Complexity During Military Urban Operations: Visualizing the Elephant**

Glenn, Managing Complexity During Military Urban Operations: Visualizing the Elephant, *RAND*, 2004.

Click [here](#) for the complete article

**This paper proposes a construct to manage the complexity of planning and executing operations in the urban environment by assisting the commander in identifying how and where to best deploy limited capability and resources.** Writing for the US Army, the author presents an overview of

the formidable tasks inherent in urban operations, and critiques current US 'decisive point' doctrine. He then explains the concepts of 'critical points' and 'density', and through a series of case studies shows how these allow a simple view of the complex - to 'make manageable the chaos'. The paper argues that the demands of urban operations mean there will never be sufficient assets to meet all tasks, and that focus on urban environment specific critical points will have the greatest impact on achieving objectives. This is a well presented and persuasive argument, and will be of interest to the operational planner and the writer of doctrine.

Keywords: doctrine, operations, tactical

### **Systems Approach to Urban Operations**

Sutherland, Systems Approach to Urban Operations, *US Army Command and General Staff College*, 2003.

Click [here](#) for the complete article

**In this 67-page monograph Sutherland demonstrates a systems-based technique to allow planners to identify key objectives, understand interrelationships, and analyse 2nd and 3rd order effects.**

Writing for the US military, the author reviews the characteristics of the urban environment and the theoretical and doctrinal foundations of the systems approach. The paper then puts this theory into practice and demonstrates the utility of the logical lines of operation framework (LLO) in the urban military environment. The author concludes that superimposing critical capabilities analysis over the LLO framework provides both a logical and structured methodology which reduces complexity, and a practical planning tool. This is a well-structured paper which will be of interest to the operational planner.

Keywords: doctrine, operations

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# GEOGRAPHY, INFRASTRUCTURE AND SUBTERRANEA

## GEOGRAPHY

### **Capital Cities in Civil Wars: The Locational Dimension of Sovereign Authority**

Capital Cities in Civil Wars: The Locational Dimension of Sovereign Authority, Landau-Wells, Crisis States Research Centre, 2008.

Click [here](#) for the complete article

**This 26-page occasional paper explores the criteria that external states use to attribute legitimacy to a belligerent in civil wars, and finds that possession of the capital city is the primary factor for recognising one party over another.** Writing for a fragile state research project hosted by the London School of Economics, the author dissects four cases to develop her hypothesis – Somalia 1998-2007, Liberia 1989-1996, Chad 1978-1982, and Zaire 1996-1997. Finding this ‘locational dimension’ more explanatory than conventional theories of territory-held or political expedience, the paper continues to investigate why capital cities hold such significance. The paper identifies that challengers need to take the city to gain legitimacy while incumbents need only to retain a portion, and argues that as international recognition of an actor is often decisive, the logic of this recognition needs to be debated. This is a concise treatment which addresses why capital cities have become a strategically key terrain rather than just state it as a matter of fact, and the theoretical insight has implications of interest to operational planners.

Keywords: political, policy, strategy, theory, somalia, liberia, chad, zaire/democratic republic of congo

### **Traditions, Changes and Challenges: Military Operations and the Middle Eastern City**

DiMarco, Traditions, Changes and Challenges: Military Operations and the Middle Eastern City, *CSI*, 2004.

Click [here](#) for the complete article

**This 81-page occasional paper for the US Army examines the urban environment of the archetypal mid-eastern city, looking to help the military commander understand the physical characteristics and its relationship to social and religious dynamics.** The paper demonstrates the region as highly urbanised and presents established models for representing these cities - the Islamic City, Ziegler, and multiple-nuclei models. The paper next examines the physical characteristics of the old city centre contrasted to those of later urban sprawl, and considers the social challenges of tenements, shanty towns, and the presence of large populations of marginalised guest workers. This is a very readable paper which draws considerations and insights for the commander throughout, although the broad generalisations required for such a subject range limit it to being a general primer on the topic.

Keywords: operations, tactical, intelligence support, civic

### **Cities and Warfare: The Impact of Terrorism on Urban Form**

Glaeser & Shapiro, Cities and Warfare: The Impact of Terrorism on Urban Form, *Harvard Institute of Economic Research*, 2001.

Click [here](#) for the complete article

**In the immediate aftermath of the September 11 attacks, the Journal of Urban Economics hosted a symposium on Terrorism and the Future of Cities and the authors presented this paper elucidating the links between warfare and urban development, and drawing implications for the**

**current crisis in the US.** The paper outlines the four ways large scale violence impacts city development - city as safe haven, city as target, the transportation cost effect, and the physical destruction of people and buildings/housing - and analyses case studies of contemporary Jerusalem and London and the World Wars experience of Berlin, London, and Paris. The authors contend that while effects can be large (Berlin), more commonly neither terrorism nor wars have significantly altered urban form. This is more interesting than it sounds, and is relatively jargon-free and accessible for the general reader.

Keywords: political, policy, civic

### **The Urban Anatomy: Fundamentals of a City**

Francey, *The Urban Anatomy: The Fundamentals of a City, US Army Command and General Staff College, 1995.*

Click [here](#) for the complete article

**This 54-page monograph contends that MOUT is more than simply applying conventional tactics to a different terrain, and urges modifications to doctrine to incorporate understanding of the systems nature of the city and its effects on the civilian population.** Writing for the US army, the author surveys components of the city – infrastructure, transport, services, utilities, social/cultural/religious imperatives, and governance – and analyses the efficiency of current doctrine to encompass these functions. The paper finds existing doctrine deficient, and recommends a revision to include an operational level focus, systems considerations, and a discussion of the need to strive for a state of normalcy to enhance legitimacy during operations. While the doctrinal discussion may be dated, the argument for re-focussing on the city as a complex, dynamic, interrelated ‘system of systems’ is a readable general introduction to the concept.

Keywords: doctrine, operations, civic

## **INFRASTRUCTURE AND HAZARDS**

### **Impact of Explosive Weapons on Urban Services: Direct and Reverberating Effects Across Space and Time**

Zietoun & Talhami, *The Impact of Explosive Weapons on Urban Services: Direct and Reverberating Effects Across Space and Time, ICRC, 2017.*

Click [here](#) for the complete article

**This 18-page journal paper reviews the factors that determine the impact of attacks on urban systems and infrastructure, and argues for an increased understanding of the topic amongst planners, targeting cells, and weapons controllers.** Writing in the International Review of Red Cross and using drinking water service as an exemplar, the authors explain the components and structure of urban services, describe the direct and reverberating effects of disruption, and consider the contribution of baseline service resilience. The authors argue that effects are reasonably foreseeable, and an understanding of the factors involved will enhance assessments of proportionality and consequences. This is a readable, well-explained summary which supports its points and concepts with pertinent examples, diagrams, and tables.

Keywords: operations, tactical, targeting, civic

### **Switching Cities Off: Urban Infrastructure and US Air Power**

Graham, *Switching Cities Off: Urban Infrastructure and US Airpower, City, 2005.*

Click [here](#) for the complete article

**The emergence of infrastructure warfare as a critical component of contemporary military strategy is examined in this 27-page journal article, and explicated through two case studies - Kosovo (1999) and Iraq (1993-).** Writing for an urban studies audience, the author presents theoretical perspectives on this trend towards the 'de-modernisation' of urban areas, and reviews US airpower doctrine and its on-the-ground reality in the two cases. The paper continues with a discussion of the developing state efforts to attack infrastructure through the computer networks. The author argues that deliberate targeting of the systems that sustain the civil population draws less attention than it deserves, with more immediate violence dominating the media cycle. This is an influential paper from an author that always offers fresh perspectives.

Keywords: policy, operations, targeting

### **A Curious Void: Army doctrine and Toxic Industrial Chemicals in the Urban Battlespace**

A Curious Void: Army Doctrine and Toxic Industrial Chemicals in the Urban Battlespace, Lee, *US Army Command and General Staff College*, 2001.

Click [here](#) for the complete article

**The capability of the US Army to operate in a toxic urban environment is investigated in this 53-page staff college monograph, and recommendations made for improvement.** The paper reviews the growing abundance of toxic industrial chemicals and radiological materials in the urban space and discusses civilian capabilities in planning, identification and mitigation to highlight critical functions for considerations. Present US Army capability is compared to this framework, with the author arguing that major improvements are required, and these are articulated with reference to doctrine, training, organisation, and equipment. This is a frank, spirited, and readable treatment of the topic which may be of interest to the writer of doctrine and the military planner.

Keywords: doctrine, operations, tactical, engineer employment, medical support

### **Lights Out and Gridlock: The Impact of Urban Infrastructure Disruptions on Military Operations and Non-Combatants**

Patterson, Lights Out and Gridlock: The Impact of Urban Infrastructure Disruptions on Military Operations and Non-Combatants, *Institute for Defence Analysis*, 2000.

Click [here](#) for the complete article

**This 105-page research paper examines the impact of power grid and transport network disruption during the conflicts in Somalia (1992-94), Chechnya (1994-96) and Kosovo (1998-2000), and draws commonalities from these to inform planning for future operations.** Writing for the US Defence Department, the author begins with discussing why it is important to understand this infrastructure and the types of impacts disruption may have, and examines existing US doctrine, field manuals, and publications on the topic. The paper then presents the three case studies and their commonalities, and considers how to integrate these considerations into existing simulation models. The author concludes that infrastructure – and disruption to it – has profound and varied impacts on operations and these short and long-term consequences must be considered up-front in the operational planning phase. The paper offers specific technical input regarding integrating infrastructure into the JCATS computer model. Utilising examples from recent conflicts, this paper will be of particular interest to the military planner and writers of doctrine.

Keywords: operations, targeting, logistics, cimic, chechnya, somalia, grozny, mogadishu, kosovo

## SUBTERRANEA

### Subterranean Operations

Subterranean Operations, US Army, *TRADOC*, 2019.

Click [here](#) for the complete document, or search for ATP 3-21-.51 Subterranean Operations

**This US Army doctrinal publication offers guidance in planning and tactical techniques from squad to brigade level. The paper describes subterranean facilities, their hazards, and how they may be utilised by an enemy.** Planning considerations are outlined, decision making frameworks explained, and potential enablers and sustainment requirements identified. Squad and individual techniques are detailed with the use of clear illustrations and explanatory notes. This US doctrine is comprised of 288 pages including appendices.

Keywords: doctrine, tactical, infantry tactics, logistics, resupply, planning & recce, cqf

### Underground Warfare in Urban Areas

Richmond-Barak, *Underground Warfare in Urban Areas*, *Underground Warfare*, 2018.

Available via [SSRN](#)

**The effects of underground urban warfare on co-located civilian populations are examined in this 39-page book chapter, including the IHL implications of tunnelling and counter-tunnelling operations.**

The chapter reviews the increasing occurrence of underground warfare in recent conflicts, drawing examples mostly from the middle-east, with historical references to Vietnam and Afghanistan.

The associated dangers for non-combatants are described, as well as the legal responsibilities of the belligerents. This is a readable treatment of a little studied topic.

Keywords: political, policy, tactical, humanitarian

### Subterranean Warfare: A New-Old Challenge

Shapir & Perel, *Subterranean Warfare: A New-Old Challenge*, *The Lessons of Operation Protective Edge*, 2014.

Click [here](#) for the complete article (Academia.edu)

**This 7-page article reviews the history of Israeli forces in tunnel warfare and summarises the systemic responses to the threat, to date.** Writing for an Israeli domestic audience as part of a compilation exploring the legacy of the 2014 Gaza War (IDF Operation Protective Edge), the authors recount the IDF experience of offensive and smuggling tunnels in Lebanon and Gaza. The paper then summarises initiatives in detection of this infrastructure, noting that efforts have largely failed and specific technologies are only in the early stage of development despite significant investment. The authors conclude that while the strategic threat posed by tunnels is currently 'on the front page', decisions regarding investment need to be balanced with competing priorities.

Keywords: tactical, engineer employment, israel/palestine, lebanon, gaza

### The Enemy Below: Preparing Ground Forces for Subterranean Warfare

Bowes et al, *The Enemy Below: Preparing Ground Forces for Subterranean Warfare*, *Naval Postgraduate School*, 2013.

Click [here](#) for the complete article

**A capability gap is identified in this 189-page thesis, which analyses historic case studies to frame the considerations for subterranean warfare and lobby for doctrinal attention.** Writing for the US military, the paper establishes the inevitability of ground forces engaging in underground operations, and presents studies of five cases - Constantinople 1453, Petersburg 1864, Messines Ridge 1917, Okinawa 1945, and CuChi Vietnam 1966. Analysis of the cases is used to create a new typological classification system and to identify targeting attributes. Insights are then drawn to specify doctrinal considerations for the US, using a DOTMLPF structure, with the authors highlighting the imperative to explore indirect methods for countering the threat - incendiaries, cyber-attack, and PSYOPS. This is an ambitious and comprehensive treatment, which will be of interest to the trainer and writer of doctrine.

Keywords: doctrine, tactical, infantry tactics, incendiarism, smokeout, tunnels

### **On the Use of Underground Space in the Course of Battle Actions**

Vinichenko, On the Use of Underground Space in the Course of Battle Actions, *Military Thought*, 2006.

Available from East View publishing by purchase via link [here](#), or in Russian [here](#)

**Translated from the Russian, this 9-page journal article considers the evolution of subterranean military theory and practice, and calls for renewed focus on the topic.** Writing for a Russian military audience, the author argues for the growing role and importance of subterranean capability, as the air/space dominance of some militaries will drive others to seek advantage underground in a rapidly urbanising operating environment. The paper considers underground operations through history and reviews the associated theory and literature, concluding that doctrine has fallen behind practice. The author calls for updated theory, beginning with a 'conceptual thesaurus' to systemise and focus analysis.

Keywords: doctrine, tactical, engineer employment

### **Digging into Israel: The Sophisticated Tunneling Network of Hamas**

Watkins & James, Digging into Israel: The Sophisticated Tunneling Network of Hamas, *Journal of Strategic Security*, 2001.

Click [here](#) for the complete article

**The extensive tunnel networks constructed by Hamas in Gaza are examined in this 22-page journal article which investigates the motivations and organisation behind its construction.**

The paper gives an historical context to the tunnelling operations and analyses open sources to speculate as to the likely factors influencing such a strategy and the methodology and organisation of construction. The authors argue the project was a success: as an engineering feat, for its psychological effect on the Israeli population and for its ability to allow covert ingress into enemy territory. This is a concise analysis which gives insights from the Palestinian perspective.

Keywords: strategy, tactical, engineer employment, israel/palestine, gaza

### **Subterranean Warfare: A Counter to US Airpower**

Heilig, Subterranean Warfare: A Counter to US Airpower, *Air Command and Staff College*, 2000.

Click [here](#) for the complete article

**This 35-page research report highlights the effectiveness of subterranean fortifications in negating the otherwise overwhelming destructive capability of US airpower.** Writing for the USAF, the author traces the evolution of underground defences and identifies four challenges to the efficacy of bombardment: difficulty in locating and assessing targets; the requirement for direct hits in order to destroy such fortifications; the ease with which subterranean structures can be repaired and re-occupied;

and the difficulty in conducting battle damage assessment. These restraints are articulated through a case study of the battle for Peleliu 1944, and the implications of this capability gap explored through examination of the North Korean threat. This is a general introduction to the topic, concerned mainly with framing the problem rather than considering solutions.

Keywords: doctrine, tactical, targeting

### **A Historical Analysis of Tunnel Warfare and the Contemporary Perspective**

Reece, A Historical Analysis of Tunnel Warfare and the Contemporary Perspective, *US Army Command and General Staff College*, 1997.

Click [here](#) for the complete article

**This 63-page staff college monograph offers an historical overview of military tunnelling operations from the US Civil War to Vietnam, and analyses the contemporary threat posed by North Korea to ascertain if current US subterranean doctrine is fit for purpose.** While the historical section is of general interest - briefly narrating experience of the civil war, WW1, the Japanese retreat across the Pacific in WW2, Korea, and Vietnam - the paper is limited by restricting discussion of subterranean doctrine to a single threat and offering no recommendations for improvement.

Keywords: doctrine, tactical, engineer employment

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## CAPABILITY AND ENABLING CONCEPTS

### **Urban Warrior: Summary of Findings**

Force Development, Urban Warrior: Summary of Findings, UK Capabilities Directorate Combat, 2014.

Available on request from UK: [ArmyCapCbt-FDT-FD-SO2@Mod.gov.uk](mailto:ArmyCapCbt-FDT-FD-SO2@Mod.gov.uk)

**Insights from the 5-part British Army Urban Warrior exercise are collated in this 17-page report, which makes a broad range of recommendations primarily concerned at the tactical level.**

Utilising analysis, experimental outcomes, and the perspectives of judgement panels, the paper offers dot-point discussion of aspects including: C2, Information and Intelligence, firepower, manoeuvre, protection, sustainment, organisation, doctrine, equipment, and training. By nature a treatment of British capabilities, the paper includes less visited concepts of armoured CSS, obscurant smoke, non-lethals, and the imperative for inter-agency training. An annex includes short case studies of Aleppo (2013), Jenin (2003), and Al Qrnah (Iraq, 2007). Part acknowledgement of capability deficits, and part wish list, this is a frank point-in-time summary of British army urban preparation.

Keywords: tactical, combined-arms tactics, infantry tactics, armour tactics, artillery employment, engineer employment, logistics, combat supplies, medical support, afv employment, afv casevac, smoke munitions, uav, iraq, israel/palestine, syria, jenin, aleppo, al qrnah

### **Walking through Walls: Soldiers as Architect in the Israeli-Palestinian Conflict**

Weizman, Walking through Walls: Soldiers as Architect in the Israeli-Palestinian Conflict, *Philosophy*, 2006.

Click [here](#) for the complete article

**An architecture academic explores the emerging nature of Israeli urban warfare, categorising it as an intentional - and violent - redefinition of space, in this 15-page journal article.** Writing for a social and political science audience, the author investigates Israeli actions in Jenin and Nablus (2002), and uses interviews and site-visits to explore Israeli intent and effect in operations against these urban areas. The paper addresses a range of concepts: 'walking through walls' technique and justification; the militarisation of re-building; and the re-purposing of left-wing, subversive theory to the task of validating power projection. This is a wide-ranging, multi-disciplinary piece which requires some prior knowledge (or further reading), but offers stark reflection on policies which 'un-wall the wall' and dislocate the legal and social order.

Keywords: theory, concepts, tactical, infantry tactics, civil-military, mouse holing

### **The Strategic Corporal and the Emerging Battlefield: The Nexus Between the UCMC's Three Block War Concept and Network Centric Warfare**

The Strategic Corporal and the Emerging Battlefield: The Nexus Between the UCMC's Three Block War Concept and Network Centric Warfare, Szepesy, 2005.

Click [here](#) for the complete article

**This 77-page thesis examines how the concepts of the 3-block war and network-centric warfare manifested in operations in Iraq, and argues that the conflict has affirmed the crucial and developing role of the small unit leader.** Writing for the US military, the author reviews the two concepts, and offers a characterisation of the emerging 21st Century adversary. Both battles of Fallujah (2004) are presented as a case study, with key observations including: the primacy of information dominance; use of tech to enhance leader capability; the perils of underestimating the enemy; and friction

between civilian and military analysis. The paper concludes with contemplation of the developing role of the small unit leader. This is an interesting analysis which seeks to trace concept development through to on-the-ground effects.

Keywords: operations, tactical, iraq, fallujah, small team leadership

### **Corralling the Trojan Horse: A Proposal for Improving US UO Preparedness in the Period 2000-2025**

Glenn et al, *Corralling the Trojan Horse: A Proposal for Improving US Urban Operations Preparedness in the Period 2000-2025*, RAND, 2001.

Click [here](#) for the complete article

**An alternative approach to the traditional high-firepower/close combat model of urban operations is outlined in this 40-page briefing paper commissioned by the US army.** The authors establish the requirement for a low-casualty/low collateral loss operational model for western forces, and outline such an alternative composed of six mutually-reinforcing and near-simultaneous components: ISR enhancement; denial of access and the preparation of indigenous forces; nodal operations; non-combatant control; selective dominance; and post conflict sustainment. The paper argues that not enough has been done to prepare for the inevitability of urban combat, and that now is the time for critical decisions to be made regarding doctrine, component and system development, training, and funding. This is an influential paper which states the problem clearly and offers practical suggestions to solving the conundrums of modern urban warfighting, and will be of interest to the military planner.

Keywords: policy, doctrine, operations

### **The US Army National Guard and Urban Warfare: Building a Needed Capability**

Holt, *The US Army National Guard and Urban Warfare: Building a Needed Capability*, US Army War College, 2001.

Click [here](#) for the complete article

**The repurposing of redundant reserve brigades into an urban-environment-specialist force is proposed in this 40-page research paper.** Writing for the US Army, the author argues that National Guard units of questionable relevance and readiness could be retrained to provide capacity for large scale urban warfare operations and domestic contingency support, and outlines detailed organisational, training, and funding considerations involved in this proposal. This is a well-structured paper which may be of interest to military futures planners.

Keywords: operational-level, cimic, force structure

### **Running the Gauntlet: Force Projection for Tactical Penetration in MOUT**

Knight, *Running the Gauntlet - Force Protection for Tactical Penetration in MOUT*, Australian Army Land Warfare Conference, 2000.

Click [here](#) for the complete article

**Future concepts for tactical offense are described in this 18-page conference paper, which envisages troops fighting from the protection of dedicated urban fighting vehicles, operating comfortably within obscurants shielding them from the enemy, and utilising a range of unmanned combat systems.** Presenting to the Australian Army, the author suggests a fight protected/fight obscured/fight by proxy agenda, and discusses the history and recent operational employment of these concepts, before reviewing recent developments and illustrating how this might look on the ground in the near future. The paper argues that traditional MOUT doctrine of methodical clearance is not suited to

the small, casualty averse Australian army, and that a manoeuvrist approach will allow it to wield a potent capability within its limitations. This is a forward-looking paper supported by pertinent historical vignettes.

Keywords: tactical, penetration, afv employment, ugv

### **United States Army Special Forces: The 21st Century Urban Challenge**

McGuiness, United States Army Special Forces: The 21st Century Urban Challenge, *US Army War College*, 2000.

Click [here](#) for the complete article

**The role of special forces in future urban operations is discussed in this 48-page staff college monograph for the US Army.** The paper considers the emerging operating environment, articulates the SF view of urban operations, and reviews regional hotspots and possible areas of engagement. Among other conclusions the author considers unconventional warfare a high pay-off yet complex employment, and highlights the SF contribution to intelligence gathering prior to conflict. Areas for improvement identified include integration with conventional operations, training in political/military implications for troops, and the review of TTPs which may be formulated for a rural area of operation. This is a general, conversation-starter paper which may have insights of interest to the writer of doctrine.

Keywords: operations, intelligence support, cimis, planning & recce

### **A Concept for Future Military Operations on Urbanized Terrain**

Vanriper, A Concept for Future Military Operations on Urbanized Terrain, *Marine Corps Combat Development Command*, 1997.

Click [here](#) for the complete article

**This 19-page concept paper envisions a move from the traditional attrition-type urban combat to a manoeuvre-based concept enacted by a mobile, high-tech, flexible force targeting key enemy vulnerabilities.** Writing for the USMC to focus research and experimentation efforts, the author elucidates the challenge with an overview of urban trends and characteristics and then identifies opportunities for developing manoeuvre capabilities in: C3; mobility; firepower; survivability; adaptability and organisational flexibility; awareness; and sustainability and logistics. This is simultaneously a statement of intent, a brainstorming of wish-list items, and a call for a focus on the challenges of urban operations.

Keywords: doctrine, operations

### **Military Operations in Urban Terrain (MOUT): A Future Perspective for a Joint Environment**

Mills, Military Operations in Urban Terrain (MOUT): A Future Perspective for a Joint Environment, *US Naval War College*, 1997.

Click [here](#) for the complete article

**This 76-page US staff college paper assesses the future MOUT threat and describes the US Army's Advanced Concept Technology Demonstration and then USMC Sea Dragon initiative.** The paper continues with doctrinal, training, organisational, and tech considerations for future UO, including an examination of relevant weapons systems under development. This is a loosely-linked, forward-looking paper combining current initiatives and emergent concepts and tech.

Keywords: doctrine

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## SCIENTIFIC MODELLING

### **Urbanization of Insurgency: Shifts in Geography of Conflict**

Calluzzo, *The Urbanization of Insurgency: Shifts in the Geography of Conflict, Masters Thesis, Massachusetts Institute of Technology, 2010.*

Click [here](#) for the complete article

**Data on insurgencies from 1945-2005 is crunched in this 74-page political science thesis in order to determine the impact of urbanisation on insurgency outcomes, and indicates that urban insurgencies are now harder to defeat than rural ones.** The paper reviews the literature on insurgency and predictors of success, reviews the conventional wisdom on the impact of the urban environment, and posits that urbanisation will favour insurgency by: offering cover and concealment; nullifying power differentials; and offering an abundance of soft targets to undermine counter-insurgency legitimacy. Testable hypotheses are distilled and the data applied. Among many observations, the author concludes that insurgency has become increasingly urbanised in line with growing world urbanisation, and is particularly difficult to defeat when externally supported and the counter-insurgent is a foreign occupier of a more democratic nature.

Keywords: statistics

### **Comparison of a Distributed Operations Force to a Traditional Force in Urban Combat**

Babilot, *Comparison of a Distributed Operations Force to a Traditional Force in Urban Combat, Naval Postgraduate School, 2005.*

Click [here](#) for the complete article

**This 128-page US staff college thesis generates a computer model to explore the efficacy of the emerging distributed operations concept in urban combat.** Writing for the USMC and focussing on the infantry platoon, the author presents the background, scenarios, and methodology of the simulation before analysing the data and drawing conclusions. The paper finds the distributed operations platoon marginally more effective in combat than the traditionally structured platoon, becoming increasingly better as terrain density decreases.

Keywords: operations, tactical, infantry tactics, iraq, fallujah

### **Measuring the Effects of Combat in Cities: Phase 1**

Lawrence & Anderson, *Measuring the Effects of Combat in Cities: Phase 1, The DuPuy Institute, 2002.*

Click [here](#) for the complete article

**This 139-page statistical analysis commissioned by the US Army seeks to identify the effect of urban terrain on combat to inform planning considerations for urban operations.** The paper focusses at the Divisional/Army level, and draws data from a range of urban and non-urban WW2 battles to consider the effects of urban terrain on outcomes, casualties, advance rates, force density, force ratios, armour, combat stress, logistics expenditure, and duration of combat. The paper includes discussion of the possible impact of changing technology on the findings, and applies the conclusions to critique some recent studies. The paper confirms some generalisations about urban warfare - noting the main impact of urban terrain is to slow the tempo of combat - and produces some important correctives, notably that city fighting inflicts less casualties on the attacker than other terrain. This is a rigorous and readable piece which will be an asset for the military planner.

Keywords: statistics, operations

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# INTRASTATE, GUERRILLA WARFARE, COUNTER-INSURGENCY, COUNTER-TERRORISM

## **The Urbanization of Insurgency: A Continuing Challenge for the American Way(s) of War**

Young, *The Urbanization of Insurgency: A Continuing Challenge for the American Way(s) of War*, Canadian Forces College, 2006.

Click [here](#) for the complete article

**This 91-page Canadian staff college monograph uses two cases - Mogadishu 1993, and Fallujah 2003 - to examine the US way of war when brought to irregular conflicts, and finds it incompatible with combatting an urban counter-insurgency and often counter-productive.** The paper discusses the developments in US military mindset since the end of the cold war, and examines the growing urbanisation of insurgency. The cases are introduced to illustrate shortcomings in counter-insurgency doctrine, and the danger of reliance on an inadequate conventional way of war to address the threat. The author concludes that the US does not train or prepare for unconventional urban counter-insurgency operations, but instead clings to a preferred model of war manifested in: an over-reliance on technology and firepower; an over-emphasis on direct action; and an under-reliance on HUMINT. This is a well-structured, engaging paper of interest for both its overview of urban insurgency challenges, and its central argument.

Keywords: doctrine, operations, intelligence support, cimic, iraq, somalia, fallujah, mogadishu

## **Guerrilla Warfare Tactics in Urban Environments**

Marques, *Guerrilla Warfare Tactics in Urban Environments*, US Army Command and General Staff College, 2003.

Click [here](#) for the complete article

**This 72-page thesis compares US special forces guerrilla warfare doctrine to three case studies - the IRA (1969-present), the Afghan Mujahideen under Soviet occupation (1979-1989), and the Chechens in Grozny (1994-1995 and 2000) - to investigate if there are shortcomings when applied to the urban environment.** Writing for the US army the author identifies that current doctrine for training/organising/assisting /employing guerrilla forces is predicated on a rural model, and examines the cases to illuminate the TTPs for urban combat used by these irregular forces. The paper concludes that doctrine is indeed lacking, and illustrates that the three forces analysed have developed tactics unique to their situation and threat profile. This is an under-explored area in the literature, and the author provides an informative context detailing urban guerrilla tactics which will be of interest not only to the writer of doctrine.

Keywords: doctrine, tactical, infantry tactics, ttp, chechnya, grozny, afghanistan, ira

## **The Efficacy of Urban Insurgency in the Modern Era**

Miller, *The Efficacy of Urban Insurgency in the Modern Era*, US Army Command and General Staff College, 2002.

Click [here](#) for the complete article

**This 159-page thesis examines three case studies - Algiers (1956-57), Uruguay (1962-72), and Northern Ireland (1969-74) - to examine the effectiveness of insurgency in cities and the advantages/disadvantages the urban environment offers for such operations.** The paper presents an overview of insurgency and counter insurgency theory, and then examines the cases focussing on

a range of techniques including discriminate targeting, security requirements, the use of non-traditional combatants, the mobilisation of public demonstrations, and the exploitation of media and propaganda. The author concludes that urban insurgency is a feasible strategy when incorporating technology to enhance security, when economic targets are prioritised, and when information operations are skilfully conducted. Conversely, counter-insurgents must win the info war and execute an effective strategy to address underlying causes. This is a paper of interest for its elucidation of contrasting, near-contemporaneous cases and its perspective emphasising insurgent considerations.

Keywords: strategy, operations, ira, algiers, northern ireland

### **Low-intensity operations in Northern Ireland**

Low-intensity operations in Northern Ireland, Pearson, *Soldiers in Cities: Military operations on Urban Terrain*, SSI, 2001.

Click [here](#) for the complete article

### **British COIN success - in moving the PIRA from methodologies of violence to solely political action - is characterised as an outcome of strategic and operational flexibility in this 17-page essay.**

Writing for the US military, the author gives a concise background to the conflict, and charts its course to the present focussing on innovations in British C2, intelligence gathering, and army tactics and training. The author highlights the principal of minimum force as essential for maintaining legitimacy and avoiding alienation of the population. This is a big picture, wide ranging paper which covers some key counter insurgency principles.

Keywords: political, strategy, operations, civil-military, policing, northern ireland

### **Urbanization and Insurgency: The Turkish Case 1976-1980**

Sayari & Hoffmann, *Urbanization and Insurgency: The Turkish Case 1976-1980*, RAND, 1991.

Click [here](#) for the complete article

**This 31-page research paper analyses the relationship between rapid urbanisation and extremism, examining the case of Turkey where radical groups seized control of slums and openly challenged government control.** The paper charts the development of terrorism amidst the explosive population growth in Turkish cities, and identifies the conditions which allowed an essentially rural strategy - control of territory, allegiance of population, and a secure base for operations inaccessible to security forces - to be exploited in an urban environment. The authors argue there was nothing exceptional about the situation in Turkey to consider this a one-off, and it is a cautionary case for other world cities experiencing uncontrolled and unplanned expansion. This is a concise, persuasive paper exploring a lesser-known urban conflict.

Keywords: political, policy

### **Urban Guerrillas: Origins and Prospects**

Urban Guerrillas: Origins and Prospects, Stewart, *British Army Review Special Report-Urban Operations-Volume 2 Winter 2019*, 1979.

Click [here](#) for the complete article, via British Army Review special report

**The development of the urban guerrilla from a primarily rural theoretical base is charted in this 11-page journal article, which references contemporary events to explore the nature of urban insurgent/revolutionary/terrorist groups.** Writing for the British Army, the author articulates 20th century revolutionary theory through discussion of Mao, Castro, Guevara, and Marighella. The author

identifies the primary aim of control operations as being to isolate the guerrilla from the population, and discusses methods for this under a persuasion/protection/physical isolation structure. This is an accessible introduction to the topic of countering urban guerilla adversaries in general, in a text which is not influenced by more recent conflicts.

Keywords: political, theory, civil-military, policing

### **Mini-Manual of the Urban Guerrilla**

Marighella, Mini-Manual of the Urban Guerrilla, 1969.

Click [here](#) for the complete article

**The title says it all - a 48 - page book which considers strategy, tactics, organisation, mission types, planning, and security for the urban insurgent intent on national liberation.** Hard to categorise - part doctrine, part manifesto - the book clearly explicates the asymmetric advantages of the urban guerrilla and focuses on how best to exploit and retain these. Carlos Marighella was a Brazilian communist politician and activist who founded the ALN in 1968 which engaged in robberies and kidnappings (including of the US ambassador) targeting the Brazilian authoritarian military dictatorship, and was killed by police the year this book was published, aged 57. This is a widely read, widely quoted book and is a mainstay of 20th century guerrilla theory.

Keywords: strategy, tactical

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## JOINT, LITTORAL, AMPHIBIOUS AND AIRMOBILE

### **The Worst of Both Worlds: An Analysis of Urban Littoral Combat**

McCarthy, The Worst of Both Worlds: An Analysis of Urban Littoral Combat, *Australian Army Research Centre*, 2018.

Click [here](#) for the complete article

**This 80-page research paper commissioned by the Australian Army considers the nature of amphibious operations into cities, and articulates the complexity, risks, and requirements of developing such a capacity as part of an Australian maritime strategy.** The paper examines the trends and geographic realities of the urban littoral and then draws historical examples to elucidate the characteristics and constants of combat in this environment. The author uses these insights to conceptualise the future operating environment and explore the operational and strategic ramifications. Urban littoral combat is portrayed as a complex adaptive system combining the complexity of amphibious operations with the brutality of urban combat. This is a well-structured primer on the topic which ranges from on-the-ground considerations to strategic and policy insights.

Keywords: policy, strategy, operations

### **Australian Army in the Urban, Networked, Littoral**

Kilcullen, The Australian Army in the Urban, Networked Littoral, *Australian Army*, 2014.

Click [here](#) for the complete article

**This 43-page research paper for the Australian Army explores the challenges of operating in the increasingly electronically-connected urban littoral, and proposes concepts for small-footprint, systems-focussed control operations in this environment.** The paper analyses the nature of the coastal city, considers what missions and threats would draw forces in, and discusses operating concepts and the capabilities required for success. The author suggests that after a diversion to land-locked rural Afghanistan, Australia is returning to its primary operating environment, and that the recent explosion in tech has altered the operational landscape. From the highly influential David Kilcullen – author of the seminal *Out of the Mountains: The Coming Age of the Urban Guerrilla* - this paper offers insights for urban operations in general, and informative examples of social-tech in modern warfare. This paper will be of interest to the trainer and the military planner.

Keywords: operations, operational

### **Military Transformation for Warfare in the 21st Century: Balancing Implications of Urban Operations and Emerging Joint Operational Concepts**

Taylor, Military Transformation for Warfare in the 21st Century: Balancing Implications of Urban Operations and Emerging Joint Operational Concepts, *US Army War College*, 2002.

Click [here](#) for the complete article

**A joint operating concept, prioritising urban operations and looking to close the gap between the necessity of close ground combat and a predilection for long-range precision fires is outlined in this 39-page US staff college monograph.** The paper examines the current strategic context, the trends and threats of the urban environment, and frames the challenge of creating a truly synergistic joint operational capability. The author argues that the status quo of services focusing at the 'tactical fringe' risks evolving evermore divergence, and suggests a new overarching joint operational

concept to integrate C4ISR, move joint operations beyond the dividing up of the battle space, and drive joint-focused procurement and development. While this paper details specific US considerations, its discussion of policy development and the history of strategic innovation is informative and accessible and may be of utility to the writer of doctrine and the military planner.

Keywords: policy, strategy, doctrine, operational-level

### **We Band of Brothers: The Call for Joint Urban Operations Doctrine**

Glenn, We Band of Brothers: The Call for Joint Urban Operations Doctrine, *RAND*, 1999.

Click [here](#) for the complete article

#### **The urgent requirement for joint MOUT doctrine in a stand-alone manual is elucidated in this 76-page research paper, and the nature of material which should be covered is identified.**

Writing for the US joint staff, the author establishes the need for such doctrine, defines its role within the operational context, and specifies the content required: nature of urban operations; intel; C2; Info ops; non-combatant considerations; firepower and fire support; logistics; WMD; engineers support; and training. The paper acknowledges that events have overtaken writing and the services have consequently agreed to the need for a joint manual, so the bulk of the paper is the extensive discussion of this doctrinal content. This is a logically structured and readable study which will be of particular interest to the writer of doctrine.

Keywords: strategy, doctrine, operations, tactical

### **Dragon in the City: Joint Power Projection and Joint Urban Operations - an Unavoidable Situation in the Near Future?**

Megahan, Dragon in the City: Joint Power Projection and Joint Urban Operations - an Unavoidable Situation in the Near Future?, *US Army War College*, 1999.

Click [here](#) for the complete article

**This paper considers the realities of power projection strategy and asks 'How can we conduct ops where we must immediately engage in urban combat on sites that control the only feasible sea/airports for entry to the theatre?'. The author frames the problem through a review of current doctrine and strategic thinking, explores two case studies - Manila 1945 and Santo Domingo 1965 -and positions the urban littoral as the 'battlefield of the 21st Century'. The paper reviews pertinent current commentary and study, presents a framework for such joint operations - shape, isolate, penetrate, consolidate, transition - and concludes that current doctrine is woefully inadequate. This is a frank acknowledgement of the complexity of expeditionary urban operations, and may offer utility to the planner and writer of doctrine.**

Keywords: strategy, doctrine, operations, philippines, manila, dominican republic

### **Power Projection Operations and Urban Combat: An Unavoidable Combination?**

Boynton, Power Projection Operations and Urban Combat: An Unavoidable Combination?, *US Army Command and General Staff College*, 1995.

Click [here](#) for the complete article

**The assumption that US projected forces can rely on unopposed use of theatre arrival infrastructure is questioned in this 67-page US staff college monograph, and Logistics Over the Shore (LOTS) capabilities are proposed as an alternative to fighting urban battles for control of air and sea port facilities.** The paper frames the conflict between force-projection and urban combat doctrine and explores the nature of urban combat and littoral operations through an examination of five cases – Hue 1968, Khorramshahr 1980, Manila 1945, Normandy 1944, and the Falklands 1982.

LOTS capabilities and limitations are described in detail, with the author arguing that a commitment to this system will allow commanders to choose the time and place for entry to the operational theatre, and avoid forced entry through urban environments. This is a well-argued and well-explained insight into the LOTS contribution to expeditionary/littoral operations, and will be of interest to the military planner and writer of doctrine.

Keywords: doctrine, operations, tactical, manila, philippines, vietnam, hue, khorramshahr, normandy, falklands

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## LEGAL, HUMANITARIAN, ROE, ETHICAL

### **Oases of Humanity and the Realities of War Uses and Misuses of International Humanitarian Law and Humanitarian Principles**

Brauman, Oases of Humanity and the Realities of War: Uses and Misuses of International Humanitarian Law and Humanitarian Principles, *Journal of Humanitarian Affairs* 1, No. 2, (2019): 43-50.

Click [here](#) for the complete article

**This eight-page online report examines the perceived strategic role of international humanitarian law (IHL) during armed conflict, and the corresponding security of ‘principled’ organisations, who adhere to its precepts.** A short prose document comprised of an abstract, three main headings and bibliography. Published in the *Journal of Humanitarian Affairs*, findings are derived from secondary sources including books, journal articles and government papers. Providing both a genealogical and present-day perspective as to the evolving definition of IHL principles, it refers to multiple case studies for the purpose of analysing the incongruence between humanitarian intent, and its execution on the battlefield. Acknowledging the inherent complexities of war, and the need for pragmatism to necessarily remain grounded within ethical frameworks, this document would be of use for military urban operations planners, humanitarian organisations, and practitioners or academics of international humanitarian law.

Keywords: humanitarian

## IHL CONCEPTS, APPLICATION AND ROE

### **Proportionality in the Conduct of Hostilities: The Incidental Harm Side of the Assessment**

Gillard, Proportionality in the Conduct of Hostilities: The Incidental Harm Side of the Assessment, *The Royal Institute of International Affairs*, 2018.

Click [here](#) for the complete article

**This fifty-four page research paper examines the international humanitarian law (IHL) precept of the ‘rule of proportionality,’ as defined in Additional Protocol 1 to the 1949 Geneva Convention.**

A long document in formal prose, it is comprised of four main headings, with an introduction. Published by the The Royal Institute of International Affairs, this paper dissects the rule of proportionality and relevant legal considerations, as it pertains to practical implementation during urban operations. With specific focus on the proportional assessment of expected incidental harm, it draws from review of the secondary literature and expert military-legal opinion, for the purpose of enhanced clarity and corresponding increase in wartime compliance. Acknowledging research limitations, and transparent in the declaration that views outlined belong solely to the author, this document would be useful for strategic urban operations commanders, planners and international humanitarian organisations.

Keywords: humanitarian

### **Challenges in the Interpretation and Application of the Principle of Distinction During Ground Operations in Urban Areas**

Neuman, Challenges in the Interpretation and Application of the Principle of Distinction During Ground Operations in Urban Areas, *The Vanderbilt Journal of Transnational Law*, 2018.

Click [here](#) for the complete article

**The principle of distinction is explained and explored through a discussion of its application to common urban ground operations in this 19-page law journal article.** The author examines the nature of masking (smoke), firing warning shots, breaching structures, and manoeuvring heavy machinery (tanks) in the urban environment, noting a tension in the application of distinction to these common, widespread practices. Legal discussion of how to reconcile the two ensues, involving nuanced discussion of attack, military objective, and indiscriminate, and considering additional IHL provisions. This is a much more readable paper than the title would suggest, and its explication of concepts through on-the-ground examples will be of interest and use to the trainer.

Keywords: tactical, humanitarian

### **The Urbanization of Warfare: Historical Development and Contemporary Challenges for International Humanitarian Law**

Hoffmann, *The Urbanization of Warfare: Historical Development and Contemporary Challenges for International Humanitarian Law*, *St Antony's International Review*, 2017.

Click [here](#) for the complete article

**This 14-page journal paper articulates the challenges of assuring lawful conduct of warfare in cities and advocates for an application of customary law - arguing that codified IHL is not equipped to deal with the challenges of urban warfare.** Writing for an Oxford University international affairs publication, the author examines the evolution of contemporary urban warfare discourse and strategy, and presents the 2003 invasion and occupation of Iraq as an illustration of the challenges posed to current IHL. The paper argues that the emphasis on security in the urbanized environment may authorise a wide range of actions contrary to central tenets - proportionality, precaution, and the discrimination of combatants from non-combatants. This is an accessible overview of the IHL challenges posed by the urbanisation of warfare which may be of interest to the trainer.

Keywords: strategy, operations, targeting, humanitarian, Iraq

### **A Tale of Two Cities: The Use of Explosive Weapons in Basra and Fallujah, Iraq, 2003-4**

Corderoy & Perkins, *A Tale of Two Cities: The Use of Explosive Weapons in Basra and Fallujah, Iraq, 2003-4*, *Action on Armed Violence*, 2014.

Click [here](#) for the complete article

**The relationship of military practice to civilian harm is examined in this 32-page research report, which recounts and compares the employment of explosive weapons by the UK in Basra (2003) and the US in Fallujah (2004).** The paper defines ROE and IHL concepts pertinent to the discussion, and gives an overview of the operations and their equipment, approaches, and civilian impact. The authors observe that US practice offers higher levels of interpretation to individual commanders, leading to a broadly condemned use of excessive firepower in an urban area. Aimed at a general/policy readership, this is a clear and well-presented introduction to the dilemma.

Keywords: policy, tactical, targeting, armour tactics, artillery employment, ihl, bombardment, direct fs, artillery-indirect, tanks, he projectiles, ebt projectiles, iraq, fallujah, basra

### **Regulating the Conduct of Urban Warfare: Lessons from Contemporary Asymmetrical Conflict**

John-Hopkins, *Regulating the Conduct of Urban Warfare: Lessons from Contemporary Asymmetrical Conflict*, *ICRC*, 2010.

Click [here](#) for the complete article

**Legal obligations for urban operations are explicated in this 25-page Red Cross journal article, with particular attention paid to considerations of precaution, proportionality, and the duty to ensure the survival of the civilian population.** The author considers the trend toward asymmetric conflict in cities, and explores the growing challenge of classifying these conflicts as simply international/non-international and the repercussions of this for the application of IHL. IHL obligations are examined specific to the urban context, with the author arguing that customary law should be applied regardless of classification to maximise strategic outcomes and the welfare of non-combatants.

Keywords: policy, operations, civic, humanitarian

### **MOUT and ROE: Writing Rules for Chaos**

Brown, MOUT and ROE: Writing Rules for Chaos, *Naval War College*, 2001.

Click [here](#) for the complete article

**The complexities of urban operations and their implications for the Laws of Armed Combat are explicated in this 22-page monograph, and guidance is given for formulating effective ROE.** Writing for the US military, the author gives an overview of standing ROE and IHL considerations, before analysing the challenges posed by the urban environment. The paper concludes with specific recommendations via the SURF acronym - simple, unclassified, realistic, and flexible. The paper argues that clear guidance without undue emphasis on collateral damage will best equip small unit leaders for split-second judgements and the exercise of professional discretion. This is a concise treatment of the subject which will be of interest to the planner and the trainer.

Keywords: political, policy, strategy, operations, civic, humanitarian

## **(WIDE AREA) EXPLOSIVE EFFECTS**

### **Reducing the Humanitarian Impact of the Use of Explosive Weapons in Populated Areas**

Bagshaw, Reducing the Humanitarian Impact of the Use of Explosive Weapons in Populated Areas, *UNOCHA*, 2017.

Click [here](#) for the complete article

**The UN office for the coordination of humanitarian affairs (OCHA) addresses the need to minimise civilian harm from explosive weapons by compiling best-practice initiatives from varied militaries and demonstrating how these can be incorporated into planning and doctrine.** The paper reviews the impact of explosives on populations and the IHL provisions which are applicable. Next, policy from ISAF in Afghanistan and the African Union in Somalia are presented, with examples of how these have been integrated into (mainly US) practice. The paper concludes with a discussion of proposed minimum operational policy - including requirements for damage estimates and assessments, implementing civilian casualty tracking, and an acknowledgement that leadership is critical in establishing a responsible organisational climate. This is a one-stop-shop on the issue, framing the problem and offering ways forward, and will be of interest to the planner and writer of doctrine.

Keywords: doctrine, targeting, artillery employment, civic, humanitarian

### **Proportionality and Precautions in Attack: The Reverberating Effects of Using Explosive Weapons in Populated Areas**

Robinson & Nohle, Proportionality and Precautions in Attack: The Reverberating Effects of Using Explosive Weapons in Populated Areas, *International Review of the Red Cross* 98, ISS.1, (2016): 107-145.

Click [here](#) for the complete article

**This forty-page online journal article examines how reverberating wide area effects of explosive weapons detonation may be evaluated and mitigated in populated areas.** A long document in formal prose, it comprises an abstract and six main headings. Published in the International Review of the Red Cross, this paper employs secondary sources, including ICRC publications and IHL policy codified in Additional Protocol 1 to the Geneva Convention, for the purpose of embedding use of force analysis within rules of proportionality and precautions in attack. It further deconstructs the objective standard of 'reasonable foreseeability' in order to both enhance strategic urban operations policy, whilst holding 'reasonable commanders' increasingly accountable for their weapons choices. Reinforcing the critical collaboration between tactical decision-makers and urban specialists who understand the cities in which policy is to be executed, this article would be useful for U.S. military commanders, urban policymakers, explosive weapons and urban specialists.

Keywords: humanitarian

### **The Case for Addressing Explosive Weapons: Conflict, Violence and Health**

Rappert et al, The Case for Addressing Explosive Weapons: Conflict, Violence and Health, *Social Science and Medicine*, 2012.

Click [here](#) for the complete article

**The application of public health strategies toward minimising the employment and harm of explosive weapons in populated areas is advocated in this 20-page journal article.** The authors review the recent usage and consequences of explosive weapons, and outline how a range of public health techniques could be applied to the problem: data driven awareness through casualty tracking and mapping of weapon employment; less-woolly characterisation of conflict, with explosive weapon use as a marker of escalation; clear restrictions on employment; utilising stigmatisation techniques to change belligerent behaviour; the adoption of health impact assessments; and enhanced standards to drive the expectation for forces to address the needs of affected populations. This is a readable paper offering a cross disciplinary perspective.

Keywords: political, policy, humanitarian

## **NON-LETHALS**

### **Non-Lethal Weapons and the Laws of Armed Combat: Minimizing Civilian Casualties on the Battlefield**

Gardner, Non-Lethal Weapons and the Laws of Armed Combat: Minimizing Civilian Casualties on the Battlefield, *The Army Lawyer*, 2016.

Click [here](#) to contact the Judge Advocate General's Legal Center & School for access

**This 11-page US JAG Corps bulletin is a handy primer on the IHL implications of employing non-lethals amongst civilian populations.** The author explains the fundamentals of the laws of armed conflict - necessity, proportionality, unnecessary suffering, and distinction - and considers treaty law which may also be applicable. These are applied in turn to non-lethal weapon employment, and counter arguments are considered. This is a plain-language treatment of the topic which is clear and concise, and includes an appendix overview of current non-lethal tech.

Keywords: policy, tactical, cemic, humanitarian, non-lethal

### **Possible Ethical Problems with Military Use of Non-Lethal Weapons**

Coleman, Possible Ethical Problems with Military Use of Non-Lethal Weapons, *Case Western Reserve Journal of International Law*, 2015.

Click [here](#) for the complete article

**The legal and practical implications of employing non-lethal weapons during military operations are explored in this 17-page law-journal article.** The paper discusses the relationship between law and ethics and considers extant LOAC concepts of discrimination and proportionality. The challenges posed by the indiscriminate nature of developing NLW are identified - by reference to the Moscow Theatre Siege use of anaesthetic gas, and developing active area denial (heat ray) technologies - and the gap between tested intent for NLW and their actual employment in the real world is highlighted. The author argues that if police are prone to use NLW in situations that require no force, then it is likely that military will too, and flags ethical concerns that the perfect NLW will also be the perfect tool for torture. This is a well-explained, readable discussion of the topic, and provides illuminating examples which will be of use to the trainer.

Keywords: tactical, civic, policing, humanitarian, non-lethal

### **US Military Use of Non-Lethal Weapons: Reality vs Perceptions**

LeVine & Rutigliano, US Military Use of Non-Lethal Weapons: Reality vs Perceptions, *Case Western Reserve Journal of International Law*, 2015.

Click [here](#) for the complete article

**This 27-page journal article defends the US Non-Lethal Weapon development program, seeking to demonstrate it as necessary, well-intentioned, and legal.** The authors, both DoD staffers, discuss the motivation for establishing the program, offer examples of where NLW have been employed with satisfactory effect, and describe the development and legal review process. The paper concludes by summarily dismissing a range of 'misperceptions and resistance common to many innovations'. The paper tries to cover a great range of issues, none of them persuasively, but offers a clearly enunciated position statement.

Keywords: tactical, civic, humanitarian, non-lethal

## **TECHNOLOGIES AND PRECISION WEAPONS**

### **Urban Warfare**

Michel-Kleisbauer, Urban Warfare, *NATO Parliamentary Assembly Science and Technology Committee*, 2020.

Click [here](#) for the complete article

**In a 15-page draft report for the NATO parliamentary assembly, a French MP considers the implications of technological change for NATO urban operations.** The paper presents a brief overview of urban warfare characteristics and IHL concerns before considering the promise and challenges of emerging tech in areas including: social media; ISR enhancements with drones, sensors, and associated swarming concepts; force protection with loitering, precision munitions, robotics, and unmanned and autonomous systems; and C2 innovations. The paper cautions regarding the narrowing capability gap - particularly in IT - and as evidenced in tech enhancement of the IED threat. This is a short, very general treatment of the topic which serves as a useful introduction.

Keywords: tactical, intelligence support, ihl, rws, ugv, uav, robotics

### **Risks in Using New Technology in Urban Warfare and Additional Steps States Should Take to Avoid Civilian Casualties**

Amble, Risks in Using New Technology in Urban Warfare and Additional Steps States Should Take to Avoid Civilian Casualties, *International Institute of Humanitarian Law* (2019): 1-7.

Click [here](#) for the complete article

**This seven page transcript analyses U.S. military policy, current limitations and the methods by which, strategic success remains contingent upon force adaptation to urban spaces.** A short document in formal prose, this speech was presented at the 42nd Round Table on Current Issues of International Humanitarian Law on the 70th Anniversary of the Geneva Convention. Published by the International Institute of Humanitarian Law, this first-hand U.S. military perspective attempts to fill a perceived institutional gap in tactical understanding of urban environments. Providing an operational breakdown of existing three-pronged strategy, including organisation, training and equipment, the author concludes that mission effectiveness runs parallel to planning more specifically designed, for the urban spaces in which missions are executed. With scope limited to ground combat force populations, this document would be useful for U.S. urban operations planners, as well as international humanitarian and legal organisations.

Keywords: humanitarian

### **Emerging Military Technologies Applied to Urban Warfare**

Emerging Military Technologies Applied to Urban Warfare, *International Review of the Red Cross*, ICRC, 2018.

Click [here](#) for the complete article

**In 2018 the Red Cross co-hosted a symposium in Australia to consider developing military technology and its implications for IHL and humanitarian considerations in urban warfare; this is the summary of the discussion over the three-day event.** The symposium considered four areas; cyber capability; new robotics and autonomous weapons; human modification; and the influence of developing technology on military/policy decision making. The paper summarises the proceedings and identifies recurring themes in the deliberations, including the vulnerability of urban areas, the applicability of IHL to developments, and the need for an approach beyond the strictly legal to include ethical and policy input. This is a forward-looking paper which offers a concise overview of developments.

Keywords: policy, humanitarian

### **Precision Attack and International Humanitarian Law**

Schmitt, Precision Attack and International Humanitarian Law, *ICRC*, 2005.

Click [here](#) for the complete article

**This 22-page journal article for the Red Cross explores the evolving interpretation of humanitarian law in response to the developing precision capabilities of weapons systems.** The paper begins with an overview of the nature of precision attacks, factors effecting precision, and the types of systems being used and developed. Next, the author explains the legal concepts most impacted by these developments - Indiscriminate attack, Proportionality, Precautions in attack, and Perfidy and Protected Status - and discusses the current application of the law. The paper argues that the more capable the attacker is at avoiding collateral damage then the more critically the attack will be assessed, and cautions that when precision capabilities are possessed unequally the disadvantaged side may well resort to tactics which violate the basic principles of humanitarian law. This is a jargon-free analysis clearly explained with examples from recent conflicts.

Keywords: humanitarian

### **Precision Guided Munitions and Collateral Damage: Does the Law of Armed Conflict Require the Use of Precision Guided Munitions when Conducting Urban Aerial Attacks?**

Lucas, Precision Guided Munitions and Collateral Damage: Does the Law of Armed Conflict Require the Use of Precision Guided Munitions when Conducting Urban Aerial Attacks?, *University of Iowa*, 2003.

Click [here](#) for the complete article

**IHL applicable to aerial bombardment is examined in this 99-page thesis to establish if developments in customary law will mandate the use of precision guided munitions for urban areas.** The paper provides an overview of PGM types, characteristics, and employment, and reviews policy and doctrine on their use. The relevant LOAC is explored and the development of customary law is explained, with the author concluding that existing humanitarian law is sufficient and the concept of PGM being mandated for certain environments is unrealistic and unworkable.

Keywords: political, policy, targeting, humanitarian

### **The New Law of War: Legitimizing Hi-Tech and Infrastructural Violence**

Smith, The New Law of War: Legitimizing Hi-Tech and Infrastructural Violence, *International Studies Quarterly*, 2002.

Click [here](#) for the complete article

**This 20-page journal article discusses developments in the interpretation and application of the laws of wars, arguing that high tech, interventionist war is being facilitated at the expense of protections such as distinction and proportionality.** The paper presents trends and the current state of concepts, including discussion of aerial bombardment, 'dual-use', civilian protection, and public health. Two cases - Iraq 1991 and Kosovo 1999 - are explored as examples, and the current (US) legal/military narrative explored. The author identifies a widening rift between humanitarian and military interpretations of targeting and dual-use laws. This is an influential and important article which has the gravitas of a professional paper while remaining accessible to the general reader.

Keywords: targeting, humanitarian, iraq, kosovo

### **International Law and the Politics of Urban Air Operations**

Waxman, International Law and the Politics of Urban Air Operations, *RAND*, 2000.

Click [here](#) for the complete article

**The legal and political constraints upon Air-power employment in the urban environment are elucidated in this 92-page report commissioned by the USAF.** The author uses a range of examples to illustrate concepts of precaution, discrimination, and proportion, and explores political considerations - maintaining domestic, allied, and in-theatre support - and the ways an enemy may seek to exploit US adherence to IHL norms. The author discusses developing technologies in precision guidance and targeting, but cautions that increased capability may have the effect of intensifying constraints. This is a readable and clinical summary of the urban warfare dilemma, primarily targeted at air operations planners.

Keywords: operations, tactical, targeting, humanitarian

## **PROTECTION OF CIVILIANS AND SIEGE**

### **The Re-emergence of the Siege: An Assessment of Trends in Modern Land Warfare**

Fox, The Re-emergence of the Siege: An Assessment of Trends in Modern Land Warfare, *Association of the US Army*, 2018.

Click [here](#) for the complete article

**This 9-page essay argues that siege is a defining characteristic of modern warfare, and offers an overview of siege operations since the fall of the Soviet Union to highlight its nature and characteristics.** Writing for a US army audience, the author offers a definition of the modern siege, collates recent instances - Sarajevo, Grozny, Ukraine, Syria, Mosul, and Marawi- and discusses the utility of the siege on the contemporary battlefield. The paper highlights that sieges can be decisive, mindful that all actors in the period have been willing to destroy cities and generate immense civilian suffering for the opportunity to capitalise on a centralised adversary. The danger of squandering tactical victories by failing to link to strategic/political objectives is discussed, the author concluding that the modern siege invariably includes proxy forces and requires sustained land force capability. This is an accessible primer on the modern siege, exploring its contradictions and introducing illustrative cases.

Keywords: strategy, tactical, isolation, strongpoint defence, chechnya, iraq, philippines, syria, ukraine, mosul, sarajevo

### **When Wars Move to Cities: Protection of Civilians in Urban Areas**

When Wars Move to Cities: Protection of Civilians in Urban Areas, *ICRC, International Committee of the Red Cross*, 2017.

Click [here](#) for the complete article

**This 16-page report from the Red Cross describes the impact of urban conflict on civilians, and discusses initiatives and practices developed by humanitarian agencies and western militaries to mitigate this harm.** The paper examines the threats to civilians and their urban infrastructure, highlighting the reverberating effects of destruction and the challenges in responding to them. Next, civilian strategies for protecting themselves are explored, and responsibilities and methods for harm minimisation by military forces are presented. The authors conclude that urban operations will continue to have devastating effects upon civilians and, that while a robust humanitarian response is vital, the burden for civilian protection lies on those who choose to fight wars in cities. This is a quick, dot-pointed overview of the topic with references to contemporary conflicts, and will be of interest to the trainer.

Keywords: political, policy, operations, civic, humanitarian

### **The Strategic Logic of Sieges in Counterinsurgencies**

Beehner et al, *The Strategic Logic of Sieges in Counterinsurgencies*, *Parameters*, 2017.

Click [here](#) for the complete article (Academia.edu)

**This 10-page journal article identifies a void in US doctrine relating to sieges, and queries the perception that modern sieges are an effective, low-cost form of COIN.** Writing for a US military journal, the authors argue that while sieges may appear tactically attractive to belligerents they are rarely strategically effective in defeating an enemy or changing the balance of power to end a conflict. Cases of Aleppo (2013-2016) and Grozny (1999-2000) are briefly discussed to highlight the glacial pace and civilian suffering inherent in the siege, and to illustrate the conditions required for a positive strategic resolution: the involvement of major external military support or a willingness to unleash overwhelming indiscriminate force. This is a very readable treatment of the topic which references relevant conflicts to support its major points, and will be of interest to the military planner and writer of doctrine.

Keywords: strategy, doctrine, isolation, strongpoint defence, chechnya, syria, grozny, aleppo

### **Minimising Civilian Harm in Populated Areas: Lessons from Examining ISAF and Amisom Policies**

Muhammedally, Minimising Civilian Harm in Populated Areas: Lessons from Examining ISAF and Amisom Policies, *International Review of the Red Cross* 98, ISS.1, (2016): 225-248.

Click [here](#) for the complete article

### **This twenty-four page online journal article examines strategic policy adopted by the African Union Mission in Somalia (AMISOM) and International Security Assistance Force (ISAF) for the purpose of civilian harm mitigation during urban conflict.**

A moderate-length document in formal prose, it is comprised of an abstract and four main headings, including introduction. Published in the *International Review of the Red Cross*, this article reviews secondary literature, including international think tank reports and precepts of international humanitarian law, for the purpose of equipping armed actors with the tools for heightened collateral mitigation. Presenting chronological analysis of tactical adaptation to urban conflict events, it therein presents a guiding blueprint for military commanders on how best to preserve a protection mindset within unpredictable and ever-evolving urban spaces. With scope narrowed to parallel analysis of NATO-led ISAF and AMISOM policy, this article would be useful for strategic urban operations commanders and policymakers.

Keywords: humanitarian

### **Precautions Against the Effects of Attacks in Urban Areas**

Jensen, Precautions Against the Effects of Attacks In Urban Areas, *International Review of the Red Cross* 98, (2016), ISS. 1, 147-175.

Click [here](#) for the complete article

### **This twenty-nine-page online journal article seeks to shift the discourse on international humanitarian law (IHL), from the obligations of attackers, to those of defenders.**

A long document in formal prose, it contains an abstract and five main headings. Published by the *International Review of the Red Cross*, this article examines the IHL principle of 'precautions against the effects of attacks,' as codified in Additional Protocol 1 to the Geneva Convention. Drawing from secondary sources, including IHL doctrine and academia, it outlines the legal responsibilities of defenders in the protection of civilians during urban conflict, revealing the underlying tension between adherence to humanitarian obligations and warzone practicability. It concludes by propounding technological advance as a real-time solution that not only equips defenders with critical intelligence, but expands the scope of 'feasibility' in such a way, it holds their wartime decisions increasingly accountable to the law. This article would therein be of use for military commanders, strategic urban operations planners and IHL policymakers.

Keywords: humanitarian

### **Protecting Civilians in Urban Areas: A Military Perspective on the Application of International Humanitarian Law**

Durhin, Protecting Civilians in Urban Areas: A Military Perspective on the Application of International Humanitarian Law, *International Review of the Red Cross* 98, (2016), ISS. 1, 177-199.

Click [here](#) for the complete article

### **This twenty-three page online journal article explores international humanitarian law (IHL) principles, for the purpose of enhanced urban operations policy development.**

A long document in formal prose, it consists of seven main headings. Published by the *International Review of the Red Cross*, this article examines the strategic tension between full implementation of IHL, and the deployment of physical 'boots on the ground.' Providing linear analysis of the Geneva Convention and its associated IHL principles of distinction and proportionality, this article explores the importance of intelligence gathering within the context of collateral damage mitigation. Influenced by the 'Three Block War' concept, it concludes

that IHL remains a vital instrument, critical to the conduct of lawful armed conflict. Acknowledging intrinsic moral dilemmas for the practical realisation of IHL, this article would be useful for military commanders and strategic operations planners.

Keywords: humanitarian, france

### **Under Siege: International Humanitarian Law and Security Council Practice Concerning Siege Operations**

Watts, Under Siege: International Humanitarian Law and Security Council Practice Concerning Siege Operations, *Harvard Law School Counterterrorism and Humanitarian Engagement Project*, 2014.

Click [here](#) for the complete article

**This 26-page policy paper reviews the practicability of conducting urban siege operations considering extant IHL and growing international political opposition as manifested in recent UN Security Council resolutions.** The author reviews modern military principles and doctrine regarding sieges, articulates the applicable provisions of IHL and discusses Security Council resolution 2139 with its references to current urban sieges in Syria. The paper concludes that there is growing legal and political intolerance for the human suffering and deprivation inherent in sieges, and that the value and feasibility of such operations has become increasingly questionable.

Keywords: political, policy, operations, civic, humanitarian, syria

### **Siege Warfare in the Early Modern Age: A Study of the Customary Laws of War**

Lesaffer, Siege Warfare in the Early Modern Age: A Study of the Customary Laws of War, *The Nature of Customary Law: Legal, Historical and Philosophical Perspectives*, 2007.

Click [here](#) for the complete article

**The evolution of the customary laws of war is explained in this 27-page work of legal history, illustrated by developments in the conduct of siege warfare in Europe.** The author traces the history of this 'ritual dance of threats and promises between besieger and besieged' from the late medieval period through to the 18th Century. Contributions of contemporary jurists and theorist are reviewed, and the paper concludes with observations of the trends and changes which produced a recognisably modern, international body of mutual understandings. This is a readable legal discussion which offers insights and explanatory vignettes which may interest the trainer.

Keywords: political, strategy, humanitarian

### **Siegecraft and Surrender: The Law and Strategy of Cities and Targets**

Waxman, Siegecraft and Surrender: The Law and Strategy of Cities and Targets, *Virginia Journal of International Law*, 1999.

Click [here](#) for the complete article

**The historical and evolving relationship between cities, strategy, and law is elucidated in this 73-page journal article, and observations made through analysis of three historical campaigns are applied to the recent 'revival of siege warfare' by Serb forces in Croatia/Bosnia/Herzegovina (1992-95).** Writing for an IHL audience, the author presents discussion of the Duke of Alba's attempts to subdue the Dutch revolt (1572-73), Sherman's march through the Confederate south (1864-65), and the allied bombing of Germany (1943-45), before addressing the legal/city/strategic dynamic presented in the former-Yugoslavia. The paper demonstrates the repeated re-emergence of logics of siege warfare, and offers a very engaging and jargon-free treatment of the topic which offers vivid examples and insights for the trainer.

Keywords: political, strategy, humanitarian

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## INFLUENCE, IO, PSYOPS AND MEDIA

### **Cyberspace in the Megacity: Thickening the Fog of War?**

Farina, Jensen et al (Eds), *Cyberspace in the Megacity: Thickening the Fog of War?*, *Complex Terrain: Megacities and the Changing Character of Urban Combat*, Marine Corps University Press, 2019.

Click [here](#) for the complete article

**This 30-page journal paper explores the challenges of the cyberspace domain for military operations, in particular its efficient mobilisation and convergence of actors as a ‘transient mass’, and the inadequacy of traditional military spatial concepts such as areas of operation.** The paper analyses cases in Mumbai (2008) and Hong Kong (2014) to illustrate these challenges for security forces, and proposes a concept to co-opt the technology in support of military operations: frustrating transient mass C2 by flooding the space with information and creating ‘interference’ - the cognitive load component; and using the electro-magnetic signature of cyber-tech to map the size/location/direction of developing transient masses - the cluster logic component.

Keywords: operations

### **Virtual Resistance Networks: Enabling and Protecting Electronic Information Flows in the Megacity**

Relihan, Jensen et al (Eds), *Virtual Resistance Networks: Enabling and Protecting Electronic Information Flows in the Megacity*, *Complex Terrain: Megacities and the Changing Character of Urban Combat*, Marine Corps University Press, 2019.

Click [here](#) for the complete article

**The value of social-media/info-tech communities as virtual resistance networks against non-state/militant/criminal groups is highlighted in this 19-page military journal paper, which argues that they need to be sustained and protected during military operations.** The paper explores the nature of digital connectivity in cities, noting that it challenges the influence of coercive groups and is in turn targeted by them. The nature of the threat to these networks is described, and the contribution of the military toward safeguarding information flows and physically protecting the contributing individuals is articulated: maintaining/remaking internet coverage infrastructure; partnering with local IT professionals to improve bandwidth, leverage local knowledge and credibility, and deny expertise to adversaries; and identify and protect the distributors of this information. Written in plain language and explained with reference to recent events, this is practical contribution to operational design.

Keywords: operations, intelligence support, information operations, cimic

### **Bad News from Fallujah**

Zollmann, 2015, *Bad News from Fallujah*, *Media, War & Conflict* Vol 8. Issue 3, 2015.

Click [here](#) for the complete article

**The article suggests that, while government and military officials of the US/Coalition had argued the military ‘operation’ was necessary to secure Iraq and defeat an ‘insurgency’, organisations and actors from Iraqi society refer to the ‘operation’ as ‘collective punishment’ and a ‘massacre’ that targeted the Iraqi population.** The article investigates how the press represented each of these perspectives. The findings suggest that the press overemphasised the US/Coalition perspective despite striking counter evidence. Critical aspects of coverage largely focused on tactical elements of the military dimension of the event. The article concludes that such findings are in accord with hegemonic models of media performance.

### **The New War Correspondents: The Rise of Civic Media Curation in Urban Warfare**

Monroy-Hernandez et al, *The New War Correspondents: The Rise of Civic Media Curation in Urban Warfare*, 2013.

Click [here](#) for the complete article

**The role of social media in addressing the information needs of populations during urban conflict is examined in this 10-page conference paper, which analyses Twitter micro-blogs and their dissemination in the ongoing Mexican drug wars.** The paper charts the growth of social media alerts and commentary on urban violence in four Mexican cities, and argues that these user generated forms of communication fill the vacuum when institutions - government and media - are providing mis-information or, as in the case of Mexico, are intimidated into providing little information at all. Interviews with the 'civic media curators' who aggregate and share conflict information are conducted to help understand their motivations. This is a readable paper which has pursued a range of research approaches to garner insights.

Keywords: information operations, civic

### **From Intelligence to Influence: The Role of Information Operations**

Vandomme, *From Intelligence to Influence: The Role of Information Operations*, *Canadian Forces College*, 2010.

Click [here](#) for the complete article

**The requirement for a dedicated IO capability in the Canadian forces is highlighted in this 95-page monograph, which seeks to define the capability and encourage engagement from decision makers.** The paper begins with definitions and an overview of the recent Canadian experience of ad-hoc, mission specific IO organisation. The author then teases out the concepts which may constitute such operations by providing an historical background, reviewing contemporary military doctrines, and exploring the commercial manifestations of influence strategies. The author argues that modern operations will be less concerned with conquering space than gaining 'the agreement of the population to the project we are putting forward', and that IO capability is essential for Canadian success in the modern context.

Keywords: Strategy, Information operations

### **IO on the Counterinsurgency Battlefield: Three Case Studies**

Peskowitz, *IO on the Counterinsurgency Battlefield: Three Case Studies*, *Global Security Studies*, 2010.

Click [here](#) for the complete article

**Focusing on media management, this 15-page journal article considers three cases where conventional forces failed on the battlefield due to losing the IO fight for world opinion.** The paper briefly frames the concepts of IO, 'asymmetrical media warfare', and narrative, before reviewing Fallujah (April, 2004), and the Israelis in Jenin 2002 and Lebanon 2006. The author examines the message management of both sides, and argues that forces cannot afford to ignore the IO fight. This is an interesting selection of cases, but poor editing and a partisan tone make it a less convincing paper.

Keywords: operations, information operations, civic, iraq, israel/palestine, lebanon, fallujah, jenin

### **Gathering of Human Intelligence in Counter-Insurgency Warfare: The French Experience During the Battle of Algiers (January-October 1957)**

Pierre, *Gathering of Human Intelligence in Counter-Insurgency Warfare: The French Experience During the Battle of Algiers (January-October 1957)*, *USMC Command and Staff College*, 2009.

Click [here](#) for the complete article

**A French officer at the USMC staff college presents a thesis arguing that the use of torture as an intelligence gathering tool proves strategically counter-productive, as evidenced by the French experience in Algiers.** The author contextualises the counter-insurgency in Algeria, providing background, an organisational overview of the FLN, and a narrative of the two 'battles' of 1957. The paper documents the slide to excessive force and torture with a discussion of the main players and theorists, contending that the result was increased local and international legitimacy for the insurgents and erosion of French determination. This is a concise overview of the conflict presenting a case for humanitarian conduct in war.

Keywords: operations, intelligence support, policy, theory, civil-military, policing, ihl, algiers

### **Media: A Line of Operation for Urban Combat on the Operational Level**

Krivda, Media: A Line of Operation for Urban Combat on the Operational Level, *Parameters*, 2007.

Click [here](#) for the complete article

**The critical influence of media on modern military operations is analysed in this 47-page US staff college monograph, which examines and contrasts media management in the battles of Hue 1968, and the second Fallujah, 2004.** The paper presents a narrative of the growing importance of media and its influence on world public opinion to argue that it is now an essential planning consideration for operations. The case studies are examined to draw lessons learned - Hue as an example of media management failure which resulted in a tactical victory becoming perceived as an operational failure, and Fallujah as a carefully planned media success. The author identifies honesty, embedded reporters, combat camera units, and responsive media crisis teams as elements of a successful media strategy. This is a readable paper with well-chosen, contrasting case studies.

Keywords: political, operations, information operations, cimic, iraq, vietnam, fallujah, hue

### **Massacre in Fallujah: An Important Lesson on the Critical Role of Perception and Cognition in Warfare**

Maltz, Massacre in Fallujah: An Important Lesson on the Critical Role of Perception and Cognition in Warfare, *Cognitive Domain Cabal*, 2004.

Click [here](#) for the complete article

**This 6-page essay posits that strategic success can only result from a successful campaign in the cognitive domain targeting belief and perception, and argues the US to be poorly equipped to meet this challenge.** Combining military insights with organisational productivity concepts, the author draws on recent conflict to reframe the conception of military success. The paper argues that the innovative response required is constrained by: organisational inertia, the nature of the military, a lack of visionaries, parochialism and careerism, reduction, personnel, and solipsism. These points are all extrapolated and the author concludes that to confront complex challenges the US needs to 'transform the paradigm of productivity'. This is a concise yet thought provoking paper.

Keywords: Information operations

### **The Battle of Jenin: A Case Study in Israel's Communications Strategy**

Goodman & Cummings (Eds.), The Battle of Jenin: A Case Study in Israel's Communications Strategy, *Jafee Centre for Strategic Studies*, 2003.

Click [here](#) for the complete article

**In the aftermath of disastrous media management during the Israeli incursion into the Jenin refugee camp (2002), a conference was organised to identify the ‘what’ and ‘why’ of the failure, and to contribute to the formulation of a comprehensive doctrine for Israeli military/media relations. This 68-page paper comprises the proceedings.** The conference covered an appreciation of what happened on the ground, the perspectives of correspondents reporting from the battlefield, the damage caused by the failure, and perspectives on the strategic importance of media management and ways forward. Conclusions drawn include: media management as a strategic priority and acknowledging adversary misinformation as a strategic threat; the necessity for IO planning, preparation, and intelligence prior to operations; and the imperative to rebuild media trust in Israeli communications. This is a frank appraisal of failure which makes concrete recommendations for improvement, and will be of interest to the information operations practitioner and writer of doctrine.

Keywords: strategy, information operations, civil-military, israel/palestine, jenin

### **Russian Media Policy in the First and Second Chechen Campaigns**

Belin, Russian Media Policy in the First and Second Chechen Campaigns, *Journal of Slavic Military Studies*, 2000.

Click [here](#) for the complete article

**This 35-page conference paper examines the transformation of Russian media policy in the Chechen wars from the acknowledged fiasco of the 1994-96 campaign, to effective media management in the second, 1999-2000.** Writing for an academic audience, the author compares the two efforts, and draws a series of lessons-learned which were used to drive improvement. The paper suggests that the basic strategies for media management remained the same - restriction of access to the battlefield/eyewitnesses, release of upbeat daily briefings, appeals to the patriotism of journalists, the discrediting of dissenting voices, and the selective application of criminal law against journalists - but were more effectively implemented in the second war. This is a readable paper with multiple examples illustrating key points.

Keywords: information operations, cimic, chechnya, grozny, media

### **Manipulating the Mass Consciousness: The Russian and Chechen ‘Information War’ Tactics in the Second Chechen-Russian Conflict**

Thomas, Manipulating the Mass Consciousness: The Russian and Chechen ‘Information War’ Tactics in the Second Chechen-Russian Conflict, *FOREIGN MILITARY STUDIES OFFICE*, 2000.

Click [here](#) for the complete article

**This 20-page analysis for the US Army describes the battle for public opinion being fought between Russian and Chechen forces, and while acknowledging Russian success queries how long their favourable picture of the conflict can be sustained in face of an increasingly obvious reality.**

The paper quickly reviews the Russian PR disaster of the first Chechen conflict, and notes Russia seems to have learned from this failure as well as from NATO info ops in Kosovo. Media management/Info ops in Dagestan (1999) and Chechnya (1999-2000) are considered, with the author examining Russian, Chechen and Western Media approaches. This is a concise treatment drawing upon a range of Russian-language and western sources.

Keywords: strategy, operations, information operations, cimic, chechnya, grozny

### **Psychological Operations in Urban Warfare: Lessons from the 1982 Middle East War**

Katz & McLaurin, Psychological Operations in Urban Warfare: Lessons from the 1982 Middle East War, *US Army Human Engineering Laboratory*, 1987.

Click [here](#) for the complete article

**The Israeli invasion of Lebanon (1982) is examined as a case study of information operations in urban areas, with the author concluding IDF efforts were ineffective and drawing insights from this failure to inform US doctrine and policy.** This 70-page research report for the US Army analyses the operating environment, Israeli planning, audiences, types of info ops used, and the effectiveness of these initiatives. The paper identifies specific challenges: multiplicity of audiences; countering hostile propaganda; the reality that entry of combat troops into urban areas will be a media event in itself; and that likewise censorship is in itself news. Recommendations for the US include: Explicit PSYOPS doctrine; intel coordination to inform credible info ops; and professional staff with sufficient lead time to analyse target groups. This is a thought-provoking paper which - while predating social media - garners insights which remain relevant for the writer of doctrine and military planner.

Keywords: strategy, operations, intelligence support, information operations, civil-military, israel/palestine, lebanon

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## ISR, UNDERSTANDING, ANALYSIS AND DECEPTION

### **Intelligence Lessons from Hizbollah's Ground Campaign 2006**

Intelligence Lessons from Hizbollah's Ground Campaign 2006, Spencer, British Army Review Special Report-Urban Operations-Volume 2 Winter 2019, 2010.

Click [here](#) for the complete article, via British Army Review special report

**This 21-page article for a British Army journal considers the intel capabilities demonstrated by Hizbollah in the second Lebanon war (2006), and identifies a disciplined, competent force with capacity to degrade and defeat the high-tech edge of western-style forces.** The paper offers a short historical background and draws on a range of sources to examine performance under headings including: IPB, OPSEC, SIGINT, UAV reconnaissance, thermal imaging/counter thermal imaging, anti-tank, HUMINT, counter-intel, and EW. The author concludes that these capabilities will no doubt be shared by Hizbollah's strategic supporters - Iran and Syria - with implications for future British operations in the region.

Keywords: intelligence support, israel/palestine, lebanon, uav

## AWARENESS AND UNDERSTANDING

### **Understanding Megacities with the Reconnaissance, Surveillance, and Intelligence Paradigm**

Ehlschlaeger (Ed), Understanding Megacities with the Reconnaissance, Surveillance, and Intelligence Paradigm, *US Army Engineer Research Development Centre*, 2014.

Click [here](#) for the complete article

**This 113-page compilation of research papers focuses on monitoring and surveillance concepts to further understand fluid populations, infrastructure and environment of the megacity.**

Compiled for the US military on the premise that current techniques are not robust enough for very large, complex urban areas, the papers addresses: geographic analysis to inform cultural understanding; environmental security forecasting; a study of Dhaka to illustrate the application of instability indicators; the security implications of a lack of land tenure for slum dwellers, and tools to help identify occupiers and controllers; passive sensors as suppliers of actionable intelligence; understanding illicit financial networks; remote sensing and satellite imagery to inform socio-cultural understanding; the internet as a source of data; and simulations to model the complexity of urban operations. Primarily concerned with gaining intelligence prior to conflict, this is an informative collection which incorporates technical detail.

Keywords: intelligence support, planning & recce, cimic

### **Shared Awareness in Urban Operations**

Block, Shared Awareness in Urban Operations, *Naval War College*, 2005.

Click [here](#) for the complete article

**The opportunities offered by network-centric shared situational awareness for the commander conducting offensive urban operations are elucidated in this 30-page staff college monograph, and recommendations are given toward overcoming obstacles in achieving it.** The paper paints a picture of a sensor/communication network fusing data from multiple sources into useable information, to facilitate an enhanced tempo battlespace with tighter synchronisation of precision fire and manoeuvre. The author calls for tech advances to overcome the limitations the urban environment imposes on

sensors and coms, and argues for improved training in the collection of HUMINT and improvements in the speed of its transmission.

Keywords: doctrine, operations, intelligence support

### **Intelligence, Surveillance, and Reconnaissance (ISR) Support to Urban Operations**

Bush, Intelligence, Surveillance, and Reconnaissance (ISR) Support to Urban Operations, *US Army Command and General Staff College*, 2000.

Click [here](#) for the complete article

**This 52-page US staff college monograph argues for the development and procurement of unique, urban-centric ISR capabilities to ensure forces maintain superior situation understanding.**

The author reviews the ISR challenges inherent in the urban battlespace, and critiques the ISR performance of Russian forces in Grozny (1994-2000) and US forces in Hue (1968). From these observations a wish-list of urban-specific capabilities is generated, and a vision of an operating area monitored and informed by an array of miniature, unmanned, unobserved, network-linked tech is conjured. The paper argues that current capability is constrained by cold war legacy tech and thinking, which is inadequate for future challenges.

Keywords: operations, intelligence support, chechnya, vietnam, grozny, hue

## **ANALYSIS AND IPB**

### **Effective Intelligence in Urban Environments**

Schrick, Effective Intelligence in Urban Environments, *US Army Command and General Staff College*, 2008.

Click [here](#) for the complete article

**This 92-page staff college thesis examines current US Army organisation and capabilities for Intelligence collection and dissemination, and makes recommendations for improvement.** Focusing at the tactical level, the paper describes existing ISR assets and manning, considers the training of officers in the employment of assets, and reviews the available doctrine. The author recommends that more personnel be dedicated to the collection and processing of HUMINT for the urban environment, and that training and doctrine be focussed on the integration of the collection teams into tactical formations and operations.

Keywords: doctrine, operations, intelligence support

### **Expanding the Approach to Urban IPB**

Im, Expanding the Approach to Urban IPB, *US Army Command and General Staff College*, 2005.

Click [here](#) for the complete article

**The shortcomings of urban IPB demonstrated in Iraq operations are addressed in this 56-page US staff college monograph, with the author arguing for specific doctrinal development to prepare tactical commanders for the uncertainties of enemy action in the urban environment.** The paper

considers recent operations to frame the challenge for urban IPB, and reviews literature relevant to the problem. The author then analyses the IPB and ONA (Operational Net Assessment) processes against the urban triad model to ascertain their ability to account for the cognitive and social aspects of operations. The paper concludes with a range of recommendations, including the incorporation of ONA to support IPB, a consolidation of urban IPB doctrine, and the establishment of the issue as a priority for the intelligence community. This is a detailed paper which may be of interest to the intelligence analyst, planner and writer of doctrine.

Keywords: doctrine, operations, intelligence support, iraq

### **Intelligence Analysis for Urban Combat**

Innocenti, Intelligence Analysis for Urban Combat, *US Army Command and General Staff College*, 2002.

Click [here](#) for the complete article

**This 75-page US staff college monograph applies doctrinal enemy COA analysis techniques to case studies of Hue 1968, Lebanon 1982-84, and Grozny 1995/1999 to determine if they are effective in the urban environment.** The paper reviews current doctrine and explains concepts for pattern analysis, weighing indicators, and wargaming friendly and enemy capabilities. The cases are then analysed using these techniques. The author finds that while providing indicators of threat COA the process can be improved, and makes recommendations to that effect: that all three techniques should be utilised simultaneously without overreliance on one or the other; that threat patterns are not simply identified, but that changes are anticipated; and that terrain not be overemphasised at the expense of cultural/demographic/historic considerations.

Keywords: doctrine, intelligence support, chechnya, lebanon, vietnam, grozny, hue

### **Street Smart: Intelligence preparation of the Battlefield for Urban Operations**

Medby & Glenn, Street Smart: Intelligence Preparation of the Battlefield for Urban Operations, *RAND*, 2002.

Click [here](#) for the complete article

**This 172-page monograph discusses modifications to the traditional IPB process in order to accommodate the complexities and difficulties of urban operations.** Writing for the US army the authors review the current IPB doctrinal model, then explore the challenges posed by urban terrain in order to identify shortfalls in the process. Next the paper presents the IPB process in detail incorporating additional considerations and perspectives unique to the urban environment, before concluding with a list of recommendations. The authors consider IPB up to the task, but note that tools and techniques need to be developed to organise and analyse the large amounts of information generated in MOUT so as not to overwhelm intel and command staff. The adapted model moves population analysis to the foreground and devotes more attention to media and information operations. This is an influential paper offering practical suggestions for improvement, and will be of interest to the military planner and the writer of doctrine.

Keywords: doctrine, operations, intelligence support

### **Understanding the Urban Battlespace: An Intelligence Challenge**

Steadman, Understanding the Urban Battlespace: An Intelligence Challenge, *Naval War College*, 2001.

Click [here](#) for the complete article

**This 28-page US Naval War College monograph identifies shortcomings in current Joint IPB support for urban operations, and makes concrete recommendations to address them.**

Concerning itself with joint/inter-agency capability at the strategic/operational level, the paper offers a general overview of the IPB challenges inherent in growing global urbanisation, and critiques existing doctrine and process to conclude that the intelligence community is not fully prepared. The author recommends a top-down prioritisation of support for MOUT, outlines the doctrinal assignment of specific responsibilities for intel production and analysis, and suggests specific agencies for the development of procedures and support methodologies.

Keywords: doctrine, operations, intelligence support

### **Intelligence Support to Military Operations in Urban Terrain: Lessons Learned from the Battle for Grozny**

Keller, Intelligence Support to Military Operations in Urban Terrain: Lessons Learned from the Battle for Grozny, *US Army War College*, 2000.

Click [here](#) for the complete article

**In this 53-page research paper Keller analyses the current US Army Intelligence capability to support urban operations, and uses lessons-learned from the Russian failure in Grozny to recommend specific improvements to US Intelligence practice.** The author begins by explaining the relevance of the topic to modern warfighting, gives an overview of the operations in Grozny 1994-95 with a focus on Intelligence performance, analyses the lessons learned, and concludes by suggesting improvements to better leverage US Intelligence doctrine, organisation, and materiel. Keller identifies Intelligence shortcomings as a prime cause of Russian failure, and argues that the trend toward urban operations creates challenges which current US doctrine/organisation/materiel are inadequate to meet. A well-structured and wide-ranging paper of particular use to those interested in Intelligence doctrine.

Keywords: operations, intelligence support, ugv, chechnya, grozny

### **Support to Domestic Civil Authorities in Civil Disturbance Operations: Intelligence Requirements and Doctrine**

Peterson, Support to Domestic Civil Authorities in Civil Disturbance Operations: Intelligence Requirements and Doctrine, *US Army Command and General Staff College*, 1993.

Click [here](#) for the complete article

**The adequacy of IPB doctrine in support of civil authorities during rioting is explored in this 63-page US staff college monograph.** The author examines lessons-learned from such troop mobilisations in the 1960s and the 1992 Los Angeles riots to establish the intelligence requirements. Current IPB doctrine applicability is dissected - against criterion of timeliness, completeness, and appropriateness - and found to be adequate. The paper highlights the crucial role of interagency liaison, and concludes with a recommendation that civil-disturbance considerations be incorporated into IPB doctrine. This is a less visited topic which may have insights of interest to intelligence personnel.

Keywords: doctrine, operations, intelligence support, civil-military, policing

### **Intelligence Preparation of the Urban Battlefield**

Johnson, Intelligence Preparation of the Urban Battlefield, *US General Staff College Monograph*, 1991.

Click [here](#) for the complete article

**This 56-page Staff College monograph argues current US IPB doctrine cannot provide predictive intelligence when applied to operations in urban terrain, and offers improvements in templating and usage to improve its efficacy.** The author begins by establishing the importance of IPB for planning, and explores the nature of urban operations by reference to military theorists and through case studies of the battles of Stalingrad and Santo Domingo. The paper then uses this perspective to critique current US doctrine and offer suggestions to enhance effectiveness. The author contends that the traditional IPB model cannot be expanded to encompass the complexities of urban terrain - and needs to be re-written - but has continued value as a tracking and reference tool. This paper is of interest for its military intelligence focus, and its detailed critique of doctrine with illuminating case studies make it of particular interest to the writer of doctrine and the trainer.

Keywords: doctrine, intelligence support, stalingrad, santo domingo

## **SURVEILLANCE, RECONNAISSANCE AND DECEPTION**

### **Reconnaissance in Megacities: Lessons from the Past**

Sevigney, Reconnaissance in Megacities: Lessons from the Past, *US Army Command and General Staff College*, 2016.

Click [here](#) for the complete article

**This 67-page staff college monograph analyses three case studies - Grozny 1995, Fallujah 2004, and Sadr City 2008 - and argues that lessons for urban ISR from these conflicts can be applied directly to operations in megacities.** The paper uses the US Army urban considerations for ISR framework to examine the cases individually, and then presents a cross-case analysis drawing lessons learned. The author concludes that while aerial ISR and technologies offer huge potential to minimise the challenges inherent to megacities, intelligence gathering must begin well before the outbreak of hostilities through interaction and relationships with local governments and host nation forces.

Keywords: operations, intelligence support, planning & recce, chechnya, iraq, fallujah, grozny, sadr city

### **Imagery and Measurement and Signatures Intelligence Support to Military Operations on Urbanized Terrain**

Cook, Imagery and Measurement and Signatures Intelligence Support to Military Operations on Urbanized Terrain, *US Army Command and General Staff College*, 2003.

Click [here](#) for the complete article

**This 67-page US staff college monograph compares current IMINT and MASINT surveillance resources to the requirements of a range of city types to argue that current capability is inadequate.** The paper introduces a group of archetype cities - Bogota, Seoul, Lagos - for use in the analysis, and articulates IMINT and MASINT capability before applying it to operations in these types of cities. Shortfalls are identified and discussed, with the author recommending a range of hardware improvements including man-portable imagery systems, ground penetrating radar, improved sensor ranges, and UAV re-trans acquisition. This is a well-explained paper which remains readable to the non-specialist.

Keywords: operations, intelligence support

### **Honing the Keys to the City: Refining the USMC Reconnaissance Force for Urban Ground Combat Operations**

Glenn et al, Honing the Keys to the City: Refining the USMC Reconnaissance Force for Urban Ground Combat Operations, *RAND*, 2003.

Click [here](#) for the complete article

**The USMC commissioned this 128-page report to enhance current recon practice for the urban environment, and the authors present a range of recommendations for improvement in doctrine, training, organisation, and equipment.** The paper draws upon an analysis of urban operations and recon literature as well as interviews with serving/ex-serving personnel and experts to identify a raft of deficiencies in ground recon practice. The second part of the paper focuses on considerations to address these shortfalls and enhance TTPs including concepts for: infiltration, exfiltration, medevac, leadership, and materiel and tech. This is a practical paper, full of memorable quotes and insights from a range of operations and militaries, which will be of interest to the writer of doctrine and the trainer.

Keywords: doctrine, tactical, intelligence support, infiltration, planning & recce, id and marking, overwatch, uav

### **Some Observations on the Role of Reconnaissance in Urban Operations**

Thomas, Some Observations on the Role of Reconnaissance in Urban Operations, *Australian Army Journal*, 2003.

Click [here](#) for the complete article

**This brief conversation-starter for the Australian Army explores the requirements for future reconnaissance operations in the urban environment.** In a 5-page journal article the author frames crucial doctrinal and operational decisions, such as: the concept of employment - a push or pull model of reconnaissance; and the force configuration which will be required - light/stealthy/vulnerable or heavy/combined/survivable. The paper notes urban recon is under-developed in doctrine, and argues emerging tech will enhance, but not replace, close recon.

Keywords: doctrine, intelligence support, planning & recce

### **The Art of Darkness: Deception and Urban Operations**

Gerwehr & Glenn, The Art of Darkness: Deception and Urban Operations, *RAND*, 2000.

Click [here](#) for the complete article

**The opportunities and perils of deception operations in the urban environment are explored in this 83-page research report commissioned by the US Army.** The paper identifies the key characteristics of the urban environment, defines deception and elucidates its goals, processes and hazards, and examines the relationship between the two. Using analysis of cases - Grozny 1995, Peru 1985-89, and the IRA 1969-89 - the authors conclude that deception is particularly effective in cities, where 'urban clutter' complicates the intelligence picture and attenuates the leverage of technology. This is an engaging paper full of explanatory examples and vignettes which will be of interest to the trainer.

Keywords: tactical, chechnya, grozny, peru, ira

### **Unweaving the Web: Deception and Adaptation in Future Urban Operations**

Unweaving the Web: Deception and Adaptation in Future Urban Operations, Gerwehr & Glenn, *RAND*, 2002.

Click [here](#) for the complete article

**This 98-page research paper identifies a void in doctrine and training, and applies insights from biological science to explore avenues for deception operations in urban environments.** Writing for the US Army, the authors review extant military literature and draw examples from biological science to discuss deceptive adaptations for offense, defence, and intel gathering. The paper argues that 'the vast majority of deceptive adaptations in the animal kingdom have valuable analogues in urban terrain', and pursue this point to consider counter-deception and the creation of a framework for deception analysis. This is a refreshingly multi-disciplinary perspective, proposing that deceptive adaptation can be as valuable as innovations in speed, armour, and weapons.

Keywords: doctrine, tactical, intelligence support, planning & recce

### **Camouflage and Deception Techniques for Urban Warfare**

Steck, Camouflage and Deception Techniques for Urban Warfare, *US Army Mobility Equipment Research and Development Command*, 1980.

Click [here](#) for the complete article

**This 79-page US army report presents a range of camouflage and deception concepts for development to increase the survivability of personnel and equipment in the urban environment.**

The paper reviews WW2 initiatives to frame the goals for urban cam and deception - effective measures which require less resources to employ than it costs the enemy to destroy. The author then proposes an extensive list of projects for consideration, including concepts for decoy buildings, adhesive for attaching rubble to armour, claymores disguised as advertising signs, and foam generators to obscure mine fields. This is an interesting historical analysis and free-wheeling brainstorm which, despite its age, is an engaging and thought-provoking read.

Keywords: tactical

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# LOGISTICS, MEDICAL AND PROCUREMENT

## COMBAT HEALTH

### **Assessment of Psychophysiological Response and Specific Fine Motor Skills in Combat Units**

Sánchez-Molina et al, Assessment of Psychophysiological Response and Specific Fine Motor Skills in Combat Units, *Journal of Medical Systems* 42, vol. 67, (2018).

Click [here](#) for the abstract

**This seven-page online journal article examines the influence of soldier training and experience on psycho-physiological and fine motor skill response during urban combat simulation.** A short document in formal prose, it contains an abstract, three data tables and seven main headings, including results and discussion. Published in the *Journal of Medical Systems*, it utilises a sample population of 31 male soldiers of the Spanish Army, in order to present original research analysing the effect of urban combat simulation on multiple psycho-physiological variables and pistol magazine reload time. Following quantitative statistical data analysis, it concludes future deployment training would benefit from the incorporation of both Light Infantry Unit tactics and psychological factors, to enhance soldier familiarisation with inherent stress components of urban combat. Acknowledging study limitations and complying with ethical standards, this study would be of use for strategic operations planners.

Keywords: lactate, heart rate, stress, anxiety, military training, spanish army, urban combat, simulation, psych, physiological

### **Effects of Parachute Jumping on the Psychophysiological Response of Soldiers in Urban Combat**

Sánchez-Molina et al, Effect of Parachute Jump in the Psychophysiological Response of Soldiers in Urban Combat, *Journal of Medical Systems* 41, ISS. 99, (2017).

Click [here](#) for abstract and links for access by subscription

**This seven-page online journal article examines the effect of simulated tactical parachute jump on psychophysiological response in combat paratroopers of the Spanish Armed Forces.** A short document in formal prose, it is comprised of an abstract, three data tables, one figure image and seven main headings including discussion. Published in the *Journal of Medical Systems*, this piece of original experimental research seeks to fill a perceived gap in the literature, through analysis of the effect of simulated parachute jump on a range of psychophysiological variables. Utilising data collected from a sample population of 19 male soldiers of the Spanish Army, quantitative statistical analysis reveals enhanced psychophysiological response of parachute jumpers prior to urban combat simulation, therein making recommendations for the incorporation of psychological elements within future urban operations training. Acknowledging study limitations and complying with ethical standards, this study would be of use for strategic operations planners of the Spanish and Western armed forces, as well as sports science specialists.

Keywords: lactate, heart rate, stress, anxiety, rated perceived exertion, spanish army, military, parachute, simulated, urban combat, psych, physiological

### **Syrian Field Hospitals: A Creative Solution in Urban Military Conflict Combat in Syria**

Sankari et al, Syrian Field Hospitals: A Creative Solution in Urban Military Conflict Combat in Syria, *Avicenna Journal of Medicine* 3, ISS.3 (2013): 84-86.

Click [here](#) for the complete article

**This three-page online report presents a brief analysis of the use of medicine as a weapon of war during the ongoing conflict in Syria.** A short document in formal prose, it consists of an abstract, one table and one figure image. Published in the *Avicenna Journal of Medicine*, this report outlines simple techniques adopted by medical personnel in order to combat growing statistics of wounded in Syria during the period 2011-2013. Utilising existing statistical data from the World Health Organisation and United Nations, it examines the capacity for makeshift field hospitals to respond to inadequate staffing, equipment and medicine shortages. However though intended primarily for Syrian medical and humanitarian personnel, this report merely describes basic improvisations used to counter austere hospital conditions in conflict zones. It is thus significantly limited in its ability to provide data that would meaningfully shape urban operation policy.

Keywords: field hospital, combat medicine, war medicine, syria

### **Analysis of Life-Saving Interventions Performed by Out-of-Hospital Combat Medical Personnel**

Gerhardt et al, Analysis of Life-Saving Interventions Performed by Out-of-Hospital Combat Medical Personnel, *The Journal of Trauma Injury, Infection and Critical Care* 71, ISS.1, (2011): 109-S113.

Click [here](#) for the complete article

**This five-page online journal article examines the use and effectiveness of life-saving interventions performed on combat casualties in Iraq during the period 2004-2005.** A short document in formal prose, it contains four data tables and five main headings, including discussion. Published in *The Journal of Trauma Injury, Infection and Critical Care*, it provides retrospective cohort analysis on the Role-I medical experience of 318 casualties, for the purpose of evaluating a notional Remote Damage Control Resuscitation (RDCR) protocol designed to enhance current survivability rates. With statistical data analysis associating delay in evacuations with increased mortality, this study makes recommendations for the value of RDCR, with its forward deployment of blood products and advanced scope-of-practise training for medics. Reviewed and approved by relevant investigative regulatory bodies, this study would be of use to military medical personnel, as well as strategic urban operations planners.

Keywords: military medicine, war, emergency medical services, remote damage control, trauma, resuscitation, blood product, non-compressible torso haemorrhage, lethal triad, combat casualty, out-of-hospital

### **Medical Evacuation and Triage of Combat Casualties in Helmand Province, Afghanistan**

Clarke & Davis, Medical Evacuation and Triage of Combat Casualties in Helmand Province, *Afghanistan: October 2010-April 2011, Military Medicine* 177, ISS.11, (2012): 1261-1266.

Click [here](#) for the complete article

**This six-page online journal article examines the role of helicopter-based medical evacuation in Helmand, Afghanistan during the period October 2010 to April 2011.** A short document in formal prose, it comprises three main headings, two data tables and one figure image. Published in *Military Medicine*, this paper employs quantitative statistical analysis, first-hand accounts from members of UK Role 3 Hospital Bastion, and a review of relevant literature, to analyse disparities in medical expertise and triage processes during intra-theatre transport. Presenting resistance to the entrenched trauma concept of the 'golden hour,' it makes recommendations for the restructuring of deployed military medical systems, including the insertion of specialised prehospital critical care teams for enhanced patient outcomes. Acknowledging the need for further study to corroborate findings, the article would be useful for military strategic operations commanders and military medical and evacuation personnel.

Keywords: medical evacuation, medevac, golden hour, helmand, afghanistan, helicopter, triage, role 2, role 3, trauma, surgical, resuscitation, pre-hospital

### **Enhancing Civilian Protection from Use of Explosive Weapons in Populated Areas**

Enhancing civilian protection from use of explosive weapons in populated Areas: Building a policy and research Agenda, Borrie & Brehm, *ICRC*, 2011.

Click [here](#) for the complete article

**This 28-page paper describes the effects of explosive weapons and the treatment of the issue under existing international humanitarian law, and argues for legal and policy changes to increase protection for non-combatants.** Writing for the Red Cross journal, the authors identify the characteristics of harm intrinsic to explosives and presents examples to explore the complexities of applying concepts of distinction and proportionality to this weaponry. The paper offers a framework for focussing on the issue, and argues that the distinct pattern of civilian harm from these weapons require a distinct categorisation and response.

Keywords: political, policy, concepts, operations, targeting, ihl

### **Out-of-Hospital Combat Casualty Care in War in Iraq**

Gerhardt et al, Out-of-Hospital Combat Casualty Care in the Current War in Iraq, *Annals of Emergency Medicine* 53, ISS.2, (2009):169-174.

Available via subscription, click [here](#) for link

**This six-page online journal article examines outcomes for battle casualties receiving initial treatment at a US Army battalion aid station in Iraq during the period 2004-2005.** A short document in formal prose, it consists of five main headings, including discussion. Published by *Annals of Emergency Medicine*, this retrospective observational study seeks to fill a perceived gap in military medical literature which explores effectiveness of out-of-hospital battlefield care. Using quantitative data analysis, it finds that despite higher battle casualty and evacuation rates, the study station had lower fatality rates when indirectly compared to the Iraqi theatre-wide aggregate for US casualties. It therein makes recommendations for enhanced out-of-hospital data collection, as well as an increase in the forward location of advanced medical capabilities. Acknowledging study limitations and compliance with relevant institutional review boards, this study would be useful for military operations planners, as well as military and civilian medical personnel.

Keywords: battalion aid station, forward, iraq, medical, battle casualty, data collection

### **Handling the Wounded in a Counter-Guerrilla War: The Soviet Experience in Afghanistan and Chechnya**

Grau & Jorgensen, Handling the Wounded in a Counter-Guerrilla War: The Soviet/Russian Experience in Afghanistan and Chechnya, *Journal of Special Operations Medicine* 7, Ed.1, 2007, 65-72.

Click [here](#) for the complete article

**This eight-page journal article examines the Soviet Army and Russian military medical experience during respective conflicts in Afghanistan and Chechnya.** A short document in formal prose, it is comprised of six main headings, six statistical data charts and one figure image. Published in the *Journal of Special Operations Medicine*, this paper employs statistical data analysis and secondary sources, including U.S. Army publications, in order to provide retrospective comparison of logistical determinants for combat casualty care and evacuation. Identifying the unique character of war wounds during fighting in the Chechnyan city of Grozny, it therein presents tactical recommendations to be employed as strategic tools for modern conflict across both rugged and urban terrain. Acknowledging research limitations from use of data with multiple unknown origins, this article would be better employed as a historical source for Soviet or Russian academics, than as relevant guiding policy for modern urban operations.

Keywords: russia, afghanistan, chechnya, medical, evacuation, hospital, wounded, surgical

### **The Seven P's in Battalion Level Combat Health Support in the Military Operations in Urban Terrain Environment: The Fallujah Experience**

Earwood & Brooks, The Seven P's in Battalion Level Combat Health Support in the Military Operations in Urban Terrain Environment: The Fallujah Experience, Summer 2003 to Spring 2004, *Military Medicine* 171, Iss. 4 (2006): 273-277.

Click [here](#) for the complete article

**This five-page online document addresses quick reaction planning for combat health support for urban operations, offering a tested seven-point framework and highlighting application issues.**

A short document with two graphics, written for practitioners and published in *Military Medicine*. It is based on data from interviews with medical and supported staff from a medical unit deployed in Fallujah between 03 and 04. It offers a useful discussion around the application of the offered 'Seven P's': prevention, proportion, preparation, portability, proximity, protection and projection - including acknowledging the limitations of these concepts. Practical issues, solutions and ethical challenges are explored, making this document especially useful for health and logistic planners.

Keywords: fallujah, chs, trauma assets, medical planning, casualty handling, embedding medical assets, forward surgical care

### **Steeling the Mind: Combat Stress Reactions and their Implication for Urban Warfare**

Helmus & Glenn, *Steeling the Mind: Combat Stress Reactions and their Implications for Urban Warfare*, RAND, 2005.

Click [here](#) for the complete article

**This 176 page research report examines the correlation between combat stress reaction (CSR) and subsequent loss in manpower during urban combat operations.** A long document in formal prose, it is comprised of a preface, seven main chapters, and supporting data tables. Published by The RAND Corporation, this paper identifies the unique challenges of urban conflict on the psyche of soldiers, analysing known precipitants of CSR, its battlefield treatment and historical incidence. Drawing from first-hand interviews and review of the secondary literature, including U.S. Department of Defence reports, field manuals and academic journal articles, it therein seeks to provide military commanders and policymakers with the information required, to mitigate severity. Research was conducted for and sponsored by the U.S. Army. This paper would be useful for U.S. military planners, NCOs and medical personnel.

Keywords: combat stress reaction, urban operations, battle fatigue, stress casualties, medical

### **Mars and Hippocrates in Megapolis: Urban Combat and Medical Support**

Grau & Gbur, *Mars and Hippocrates in Megapolis: Urban Combat and Medical Support*, *U.S. Army Medical Department Journal*, 2003.

Click [here](#) for the complete article

**This thirteen-page online article examines tactical implications for military medicine, as embedded within an increasingly unpredictable loci of urban warzones.** Published by the Foreign Military Studies Office, this document is comprised of six data charts and eight main headings. Extracting from primary and secondary data, it analyses the increased threat faced by medical personnel in the treatment of war wounded, following a shift in combat area of operations from jungle to urban terrain. With strategic urban policy necessarily informed by advances in military research, this article reiterates the intrinsic connection between increased scope of medical accountability, and the footprint left behind in local urban communities. Adhering to uniform requirements for declaration of potential conflicts of interest, this paper would be useful for military commanders and their medical counterparts.

Keywords: urban combat, wounded soldier, chechnya, russia, evacuation, medicine

### **United States Army Rangers in Somalia: An Analysis of Combat Casualties on an Urban Battlefield.”**

Mabry et al, United States Army Rangers in Somalia: An Analysis of Combat Casualties on an Urban Battlefield, *The Journal of Trauma and Acute Care Surgery* 49, ISS. 3 (2000): 515-529.

Click [here](#) for the complete article

**This fifteen-page online journal article analyses the changing pattern of injuries sustained by US military forces fighting with modern body armour in Somalia, 1993.** A document written in formal prose, it contains an abstract, ten data tables and five main headings, including discussion. Published in *The Journal of Trauma and Acute Care Surgery*, this retrospective cohort analysis examines a sample population of 125 combat casualties from Mogadishu against a pattern of historical control in Vietnam. Utilising primary sources, it employs quantitative statistical analysis to conclude that the use of modern body armour is critical in the prevention of fatal penetrating chest injuries. Similar incidence of fatal head injury in both conflicts reinforces continued capacity of built-up urban settings to accommodate targeted sniper fire by insurgents. With recommendations made for future implementation of rapid blood typing systems due to delays in medical evacuation, this article would be useful for military strategic planners, medical personnel and body armour manufacturers.

Keywords: urban warfare, combat, casualties, trauma, military personnel, body armour, kevlar, gunshot wound, somalia, vietnam, haemorrhage

### **Tactical Management of Urban Warfare Casualties in Special Operations**

Butler, Hagmann & Richards, Tactical Management of Urban Warfare Casualties in Special Operations, *Military Medicine* 165, Suppl.1, (2000): 1-48.

Click [here](#) for the complete article

**This 48 page journal article examines the tactical management of urban combat casualties in special operations during the Battle of Mogadishu, 1993.** A long document in formal prose, it includes a transcript and summary of key conclusions drawn from a panel of military medical experts at the 1998 Meeting of the Special Operations Medical Association in Tampa, FL. Published in *Military Medicine*, it employs first-hand accounts and evidence-based literature to provide an in-depth, retrospective dissection of nine combat casualty scenarios, for the purpose of facilitating more effective transition from medical knowledge into practical realities of urban warfare. Though research and technological advance may render this article limited in its capacity to shape modern urban warfare strategy, it remains historically informative for strategic urban operations planners, military medical and evacuation personnel.

Keywords: tactical management, special operations, trauma, urban warfare, haemorrhage, tactical field care, combat casualty, mogadishu, helicopter, medical

### **The Battle for Hue: Casualty and Disease Rates During Urban Warfare**

Blood, The Battle for Hue: Casualty and Disease Rates During Urban Warfare, *Military Medicine* 159, ISS.9, (1994).

Click [here](#) for the complete article

**This 16-page report examines U.S. Marine casualty rates and illness incidence during the Battle for Hue at the Tet Offensive in Vietnam, 1968.** A short document in formal prose, it contains thirteen data tables and four main headings, including discussion. Published in *Military Medicine*, it employs quantitative statistical analysis and secondary documents to compare casualty rates at the Battle for Hue, during a corresponding four-month peak in Vietnam, and at the Battle of Okinawa during World War II. Identifying a relatively stable incidence of disease/non-battle injury but increased wounded during close-

quarter urban fighting, it makes recommendations for early preparation and pre-positioning of medical resources prior to first casualties sustained. Further, wherein data from contemporary battles would be more relevant to present-day urban operations planning, this report provides a useful historical adjunct to inform military commanders and military medical personnel.

Keywords: casualty rate, illness incidence, battle for hue, vietnam, marine, urban warfare, wounded rate, killed in action, disease

### **Medical Implications of Combat in Cities**

Waters, Medical Implications of Combat in Cities, Student Research Report. *Command and General Staff College, USA*, 1975.

Click [here](#) for the complete article

**This eighteen-page report examines the medical implications of urban conflict through the lens of the United States experience during World War II and Vietnam.** A long document in formal prose, it contains an abstract and five main chapters. Written for the Command and General Staff College (US Army Command and General Staff College) graduate school of the US Army, this research paper examines the ramifications of urban combat's close-quarter structural layout on decentralisation of command and control, character of injury, force manoeuvring and evacuation. Utilising extensive secondary sources including military medical doctrine and field manuals, the indispensable role of medical intelligence on the planning and execution of mission reinforces the strategic necessity of enhanced interoperability between military commanders and their medical assets. Written for the purpose of evaluation of current military doctrine and its potential for adaptability to future urban conflict, this paper would be of use for military urban operations planners and policymakers.

Keywords: urban combat, combat medic, world war ii, vietnam, battle of saigon, preventive medicine, battlefield medicine, medical intelligence, medical evacuation

## **LOGISTICS**

### **Urban Combat Service Support Operations: Observations and Insights from Iraq**

Condon, Urban Combat Service Support Operations: Observations and Insights from Iraq, *Australian Army Journal*, 2006.

Click [here](#) for the complete article

**An Australian officer embedded within coalition military HQ in Iraq, 2004, shares his observations of contemporary urban CSS, and makes recommendations to inform ADF doctrine, training, and procurement.** This 10-page journal article orients the reader to the author's role and employment in Iraq then enunciates a range of concepts: the reality of complex terrain, complex threat and the requirements of force protection; the necessity to re-evaluate ammunition and materiel usage for a hardened CSS presence; training and equipment improvements for distribution and convoy operations; and the command and administration of movements and contractors. The author concludes urging a more rigorous consideration of these issues within the CSS community. This is a clear, dot-point reflection which will be of interest to the writer of doctrine and the trainer.

Keywords: operations, tactical, logistics, combat supplies, iraq

### **Urban Combat Service Support Operations: The Shoulders of Atlas**

Urban Combat Service Support Operations: The Shoulders of Atlas, Glenn et al, *RAND*, 2003.

Click [here](#) for the complete article

#### **This 177-page report for the US Army frames the Combat Service Support difficulties posed by the urban environment and explores ways the CSS community can meet the challenge.**

The authors suggest three factors which will enhance current doctrine and practice for the heightened contingencies of urban operations: a culture of anticipation and adapting; a uniform C2 linking combat and support forces; and a commitment to maintaining flexibility. The paper next applies these overriding concepts to specific support, organised under the headings of arming, manning, sustainment, fixing (maintenance), and force protection. The paper concludes with an appendix that handily summarises observations and recommendations from the main text into a dot-point listing. This is a comprehensive effort to consider a largely unexplored aspect of urban operations, and will be of interest to military commanders and CSS personnel.

Keywords: operations, engineer employment, logistics, combat supplies, medical support

### **Combat Service Support (CSS) in Urban Operations**

Combat Service Support (CSS) in Urban Operations, Brown, British Army Review Special Report-Urban Operations-Volume 2 Winter 2019, 2006.

Click [here](#) for the complete article, via British Army Review special report

#### **This 9-page journal article for the British Army explores the complexity of delivering logistical support in the urban operating environment and concludes that there is a lack of capability which must be immediately addressed.**

The paper explores the nature of contemporary operations with reference to recent UK experience and Russian tribulations in Chechnya, and identifies a doctrinal void which hampers training, acquisition and preparation. The author presents a range of considerations for: combat supplies; C3; equipment support (repair and maintenance); CSS firepower, protection, and security; medical; transport and delivery; and interactions with contractors and outside agencies. This is a concise treatment of an underexplored aspect of urban operations which will be of interest to the military planner.

Keywords: operations, logistics, combat supplies, medical support

### **'Soft Log' and Concrete Canyons: Russian Urban Combat Logistics in Grozny**

Grau & Thomas, 'Soft Log' and Concrete Canyons: Russian Urban Combat Logistics in Grozny, *Marine Corps Gazette*, 1999.

Click [here](#) for the complete article

#### **This 14-page journal article examines the logistics performance of the Russian military during the battle for Grozny 1994-95, and draws lessons from the challenges faced to help other armies adjust to the extreme service-support demands of urban operations.**

Writing for a US military audience, the authors concisely critique Russian combat sustainment as well as provision of critical services to the civilian population. The authors conclude that urban operations placed spectacularly high demands on supply lines, personnel and vehicles, and required rigorous planning and preparation to deal with the consequences of high casualty rates, high ammunition expenditure, disease, lack of safe resupply routes to the front, and the high level of effort needed to restore essential city services to provide basics such as food, water and heat. This paper will be of interest to military planners.

Keywords: operations, logistics, medical support, cimic, chechnya, russia, grozny

**General Urban Warfare Amphibious Logistics Applications Volume 1: Technical Report**

Yeoman, General Urban Warfare Amphibious Logistics Applications Volume 1: Technical Report, *USMC Development and Education Command*, 1983.

Click [here](#) for the complete article

**The peculiarities of urban combat and their impact on standard US Marine Corps logistics are examined in this 63-page technical report, which identifies the CSS functions most impacted by the urban environment and makes recommendations to address shortfalls.** The paper describes the model used and concept of operations and presents an introduction to the nature of urban warfare and urban characteristics. To these requirements CSS functions are addressed in turn, with civil affairs, engineering, and military police being most affected by operating in the urban environment (in addition to general concerns for insufficient capability in embarkation, materials handling, and medical support). While very specific to the USMC at a point in time, there are general considerations and observations here which will be of interest to the military planner and writer of doctrine.

Keywords: doctrine, operations, engineer employment, logistics, combat supplies, medical support, civil-military, policing

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# JOINT EFFECTS AND COMBAT ARMS

## AIR POWER, AVIATION

### **Air Domain Dominance in a Megacity**

Storm, Jensen et al (Eds), Air Domain Dominance in a Megacity, Complex Terrain: Megacities and the changing character of Urban Combat, *Marine Corps University Press*, 2019.

Click [here](#) for the complete article

**The advantages of domain dominance are highlighted in a study of the conquest of Malaya and Singapore by the Japanese (1941) in this 27-page military journal paper, and the author considers how USMC aviation can contribute to this dominance in a megacity.** The paper discusses current capabilities and shortfalls in doctrine and tech before presenting the case study. The author presents a concept for UAV enabled dominance of the skies of cities, envisaging a blanket of micro-air vehicles with advanced ISR and targeting capabilities. Organisational and implementation considerations for this concept are detailed. Acknowledging that this concept will require a tech and paradigm shift for the force, the author emphasises that in the city, evaluation of aviation success will depend on how well it supports the ground commander.

Keywords: doctrine, operations, intelligence support, uav, usa, isr

### **Taking it to the Streets: Exploding Urban Myths about Australian Air Power**

Neilsen, Taking it to the Streets: Exploding Urban Myths about Australian Air Power, *Air Power Development Centre*, 2007.

Click [here](#) for the complete article

**This 39-page monograph contrasts the capabilities and limitations of aerospace power against the emerging urban threat, and finds it a key player in an integrated strategic response.** The author examines concepts of 4th generation warfare, defining the challenge and emerging counter-strategy, before considering the nature of urban battle and the contribution of air power to the fight. Mainly focussed at the strategic and policy level, the paper discusses tech and training directions for the ADF, and offers a well-structured, broad analysis which will be of interest to the military planner.

Keywords: policy, strategy, operations, australia

### **Aerospace Power in Cities: Joint Urban Operations for the 21st Century**

Marra, Aerospace Power in Cities: Joint Urban Operations for the 21st Century, *UASWC*, 2004.

Click [here](#) for the complete article

**This 31-page war college monograph provides a general overview of the contribution and constraints of air power in support of urban operations, and proposes a strategic framework for planning.**

Writing for the USAF the author offers an overview of the nature of cities, considers probable mission types, and specifies 5 key component phases for operations: evaluation and interpretation, identification of COG, the specific application of force, sustainment of operations, and terminating and transitioning to post-conflict operations. This is a brief, general treatment of the topic which may be of interest to the non-specialist.

Keywords: strategy, operations

### **Army Attack Aviation Returning to the Close Fight: Impact of the MOUT Environment**

Tate, Army Attack Aviation Returning to the Close Fight: Impact of the MOUT Environment, *US Army Command and General Staff College*, 2001.

Click [here](#) for the complete article

**This 69-page monograph argues that a changing threat and the increased likelihood of urban engagement demands a return to a close air support capability for attack helicopters, and examines two case studies - Chechnya 1994-96 and Mogadishu 1993 - to determine how these could be used to maximum effect.** Writing for a US military audience, the author gives an overview of the development of attack helicopters, analysis the contemporary threat environment, and reviews current doctrine for aviation support of urban operations. The two case studies are presented, and observations are made regarding the most effective employment of attack aviation. The author contends army aviation's most effective contribution to urban operations will be CAS, and that the US needs to quickly develop doctrine and training to re-create this capability, while developing aircraft, weapons systems and munitions for this purpose. This is a clearly argued paper which will be of interest to the military planner and the writer of doctrine.

Keywords: doctrine, operations, tactical, combined-arms tactics, aviation and anti-aircraft, chechnya, somalia, grozny, mogadishu

### **Current Close Air Support Doctrine: Out of Step with New Technology and Urban Combat Requirements**

Hoppe, Current Close Air Support Doctrine: Out of Step with New Technology and Urban Combat Requirements, *Naval War College*, 2001.

Click [here](#) for the complete article

**This 30-page staff college paper argues that CAS doctrine is insufficient for the urban environment, and recommends tech enhancements and doctrinal modification to enable the terminal controller to assure positive control.** Writing for the US military, the author reviews the purpose of doctrine, articulates current US CAS doctrine, and explores the characteristics of the urban battlespace to highlight doctrinal deficiencies. The USMC ACASS platform is described and identified as the type of tech solution required in an environment where controllers may not be able to maintain visual contact with targets. This is a focussed paper offering concrete solutions, and will be of interest to the writer of doctrine.

Keywords: doctrine, tactical, combined-arms tactics, targeting, cas

### **Aerospace Power in Urban Warfare: Beware the Hornet's Nest**

Hunt, Aerospace Power in Urban Warfare: Beware the Hornet's Nest, *USAF Institute for National Security Studies*, 2001.

Click [here](#) for the complete article

**This 62-page occasional paper for the USAF discusses the potential of air power in joint urban operations and examines both its capabilities in attack and the range of responses available to the defender.** The paper presents the case for a focus on urban operations, discusses the characteristics of the urban environment and its impact on air power strategy, identifies possible responses open to the defender, and conceptualises an air power dominated isolation of the urban enemy. The author envisions an operation which optimises air power effectiveness and minimises risk, while requiring accurate intelligence and specialised munitions. This is a readable overview of the topic, explained with examples from recent operations and reference to theorists and contemporary commentary.

Keywords: strategy, doctrine, operations, combined-arms tactics

### **Russian Airpower in the Second Chechen War**

Evans, Russian Airpower in the Second Chechen War, *US Army Command and General Staff College*, 2001.

Click [here](#) for the complete article

**This 62-page monograph analyses Russian airpower employment, equipment, and effectiveness in the second Chechen war (1999-) in order to distil implications for western forces involved in similar small scale, high intensity operations.** Writing for the US military, the author reviews the first war and background to hostilities, before describing Russian aircraft, air-delivered weapon systems, and airpower employment concepts being used in the continuing conflict. The analysis finds that, while successful in attack missions, air power failed in its primary objective to reduce ground force casualties and operated outside acceptable levels of collateral damage and contrary to the international laws of war. The author concludes that: airpower offers little protection for ground forces within a street-fighting context; bombing of industrial infrastructure has adverse effects on strategic end-state and post-conflict operations; and assets must be capable of precision attack in all weather conditions. This is a well-structured paper with an engaging and informative narrative.

Keywords: strategy, operations, chechnya, grozny, aviation

### **Aerospace Operations in Urban Environments: Exploring New Concepts**

Vick et al, Aerospace Operations in Urban Environments: Exploring New Concepts, *RAND*, 2000.

Click [here](#) for the complete article

**The role of the USAF in current and future joint urban operations is investigated in this 270-page research paper, which identifies employment concepts for Operations Other Than War (OOTW) and the enabling tech required for their execution.** Commissioned by the US Airforce, the paper confirms the likelihood of urban operations and details the legal, political, physical, and technical challenges involved. The contribution of the aerospace force to deterring/preventing conventional attacks on urban areas is considered, then concepts and a tech wish-list developed for lower intensity operations: interdiction of combatants/vehicles/equipment; the detection and neutralisation of ambush and sniper; rapid, high-res imaging for target identifications; close support; re-supply; and the monitoring of high-priority targets. The paper argues the force needs to move from the faster/farther/higher mindset to incorporate unmanned and robotic systems to go lower/closer/slower against unconventional threats. This is a comprehensive paper ranging from big concepts to specific technical considerations, and includes a lessons-learned dot point summary from previous air operations.

Keywords: operations, tactical, intelligence support, targeting, humanitarian, uav

### **Don't Go Downtown Without Us: The Role of Aerospace Power in Joint Urban Operations**

Schwartz & Stephan, Don't Go Downtown Without Us: The Role of Aerospace Power in Joint Urban Operations, *Aerospace Power Journal*, 2000.

Click [here](#) for the complete article

**The contribution of aerospace power to contemporary urban operations is enunciated in this 10-page journal article for the US military.** The authors develop a 5-component concept of operations to highlight the effects and system capabilities which the USAF can bring to the urban fight - battlespace analysis, isolation, decisive engagement, sustainment, and the transition to peace. The paper argues for aerospace power as an integral part of joint operations, offering a risk-minimising capability across the continuum of mission types.

Keywords: operations, isolation, planning & recce, overwatch

### **Army Aviation Support to Military Operations on Urban Terrain**

Deverill, Army Aviation Support to Military Operations on Urban Terrain, *US Army War College*, 2000.

Click [here](#) for the complete article

**This 24-page US Army research paper considers the role of aviation in the urban environment and reviews near-term technological solutions.** The paper presents a general discussion of recent urban operations from an aviation perspective, and considers the unfolding post-cold-war-vision for the US Army. The author considers emerging tech, including robotics, satellites, digital coms networks and C2 systems, precision targeting and munitions, and concepts of teaming attack helicopters with UAVs. The paper concludes by noting the absence of aviation assets from the interim US brigade combat team structure, cautioning that a solely ground-based approach is doomed to failure. This is a concise snapshot of point-in-time developments, but offers limited new insight to the conduct of operations.

Keywords: operations, intelligence support, combined-arms tactics, planning & recce

### **The Role of Airpower in Urban Warfare: An Airman's Perspective**

Saffold, The Role of Airpower in Urban Warfare: An Airman's Perspective, *US Air Command Staff College*, 1998.

Click [here](#) for the complete article

**In this 37-page staff college monograph Saffold argues that airpower escapes the limitations imposed by urban operations, and that it is uniquely positioned to take the lead role in achieving operational and strategic objectives.** With reference to a range of past battles the paper examines the limiting nature of urban operations, and the historical role of airpower in support of ground forces. The author then argues that current doctrinal failure to offer airpower a role beyond Close Air Support has stifled innovation, and makes a case that airpower is now key to operational success in the urban theatre. This is an interesting perspective on combined operations, and will be of particular use to the operational planner and the writer of doctrine.

Keywords: strategy, doctrine, operations, combined-arms tactics, chechnya, germany, vietnam, aachen, berlin, grozny, stalingrad, hue

### **Air Operations in Low Intensity Conflict: The Case of Chechnya**

Thomas, Air Operations in Low Intensity Conflict: The Case of Chechnya, *Air and Space Power Journal*, 1997.

Click [here](#) for the complete article

**This 10-page journal paper reviews the performance of Russian airpower in the first Chechen War (1994-96), and draws lessons for forces involved in similar conflicts.** Writing for the US Air Force journal, the author gives a general overview of the campaign, describes the assets/operations/mission types involved, and concludes with a list of lessons learned. The paper observes that fixed wing aircraft proved more effective in ground attack, and argues that, despite localised successes, air operations had little impact on the course or outcome of the war. This is a handy, big-picture overview of the topic with lessons for the military planner and the writer of doctrine.

Keywords: operations, tactical, chechnya, grozny, aviation, anti-aircraft

### **Attack Helicopter Operations in Urban Terrain**

Jones, Attack Helicopter Operations in Urban Terrain, *US Army Command and General Staff College*, 1996.

Click [here](#) for the complete article

**This 63-page staff college monograph gives an historical overview of attack helicopter operations - from Korea and Vietnam through to Grenada, Panama, and Mogadishu - and summarises the advantages and disadvantages of their employment in the urban environment.** Writing for the US Army, the author discusses the factors which make city-fighting unique and, by applying these to current aviation capabilities and limitations, highlights the mission contribution aviation can make to the urban fight. The paper argues that attack aviation may well be the most effective combined-arms support for infantry, and makes the case for a continuing development of doctrine and a CAS training focus.

Keywords: doctrine, operations, combined-arms tactics, somalia, panama, grenada

### **Aviation in Support of MOUT**

Walters, *Aviation in the Support of MOUT, US Army Command and General Staff College, 1982.*

Click [here](#) for the complete article

**This 105-page staff college thesis works to dispel the notion that helicopters have limitations which preclude them from urban operations, and argues that - with planning and training - the current force configuration can offer the ground commander mobility, firepower and sustainability support.**

Writing for a US military audience, the author reviews US doctrine and the urban employment of helicopters in Vietnam, discusses current threats and force capabilities, and presents a detailed hypothetical highlighting how aviation can contribute to an urban assault. While this paper shows its age by detailing a Soviet enemy and a cold-war scenario, the argument for flexibility and adaptability will make it of interest to the writer of doctrine.

Keywords: doctrine, aviation, anti-aircraft, operations, operational-level, tactical

### **Slumlords: Aerospace Power in Urban Fights**

Thomas, *Slumlords: Aerospace Power in Urban Fights, Aerospace Power Journal, 2002.*

Click [here](#) for the complete article

**This 50-page USAF journal article addresses the inadequacy of operational concepts for the employment of air power in urban operations by providing a practical assessment framework for employment and an overview of the challenges and opportunities.** The paper discusses the relevance and nature of urban operations before presenting the model - a matrix considering threat type/city type which drives concepts for application and effect. The author argues for an integration of war/Operations Other Than War (OOTW) principles, and concludes with consideration of the operational effects which airpower can accomplish. This is a confident paper which is keen to drive professional conversation, and could be of interest to the trainer and writer of doctrine.

Keywords: doctrine, operations, targeting

### **Fire in the City: Airpower in Urban, Smaller-Scale Contingencies**

Hicks, *Fire in the City: Airpower in Urban, Smaller-Scale Contingencies, Air University, 1999.*

Click [here](#) for the complete article

**The role of airpower in limited urban operations is considered in this 131-page staff college thesis, and a range of case studies are dissected to identify missions and capabilities.** Writing for the US military, the author examines five cases - Hue 1968, Beirut 1982, Panama 1989, Somalia 1992-93, and Haiti 1994 - and draws lessons for capability and survivability. The paper identifies airpower contributions such as airlift, air superiority, surface attack, C3R, and info ops, and offers a discussion of the coercive power of air assets at the strategic and operational level. This is an informative paper

illuminating some lesser known airpower contributions in the urban environment, and will be of interest to the air planner or joint operations planner.

Keywords: operations, tactical, intelligence support, information operations, targeting, israel/palestine, lebanon, vietnam, hue, panama, somalia, mogadishu, haiti

## **ARTILLERY AND JOINT FIRES**

### **What is Old is New Again: Field Artillery in Megacities**

Ross, What is Old is New Again: Field Artillery in Megacities, *Fires Bulletin, US Army*, 2018.

Click [here](#) for the complete article

**A return to the Soviet WW2 usage of self-propelled artillery identifying and directly engaging urban targets is envisaged in this 4-page journal article for the US army.** The author relates a personal operational vignette from Mosul 2017, and uses the discussion prompted by this case to explore the capabilities and limitations of current US field artillery in the direct fire role - considering range-to-target limitations, fusing, and force protection. The paper argues that direct fire, self-propelled artillery is best suited for engaging targets in high-rise buildings, and suggests modest changes to doctrine and equipment to allow precision fires from outside the threat bubble of most enemy anti-tank weapons. This is a short, well structured, and persuasive article which will be of interest to the trainer and the writer of doctrine.

Keywords: doctrine, tactical, artillery employment, artillery-direct, artillery- fusing, spg, mosul

### **Indirect Fire: A Technical Analysis of the Employment, Accuracy, and Effects of Indirect-Fire Artillery Weapons**

Dullum et al, Indirect Fire: A Technical Analysis of the Employment, Accuracy, and Effects of Indirect-Fire Artillery Weapons, *Armament Research Services*, 2017.

Click [here](#) for the complete article

**Commissioned by the Red Cross, this 93-page technical report is an accessible, well explained primer on artillery, its employment and effects, intended to assist the non-specialist in understanding the impact of these weapons, especially when used in populated areas.** The paper describes the characteristics of artillery, outlines considerations for its employment, discusses concepts of accuracy, precision and error, and identifies the types and effects of munitions and fuses. Illustrated with diagrams and tables, this is a useful reference for information regarding contemporary artillery practice.

Keywords: tactical, artillery employment, bombardment, artillery-Indirect, artillery-fusing, rocket launchers, guided projectiles

### **Urban Joint Fire Support: Air Force Fixed Wing and Army Field Artillery Precision Munitions Capability for Urban Operations**

McCarty, Urban Joint Fire Support: Air Force Fixed Wing and Army Field Artillery Precision Munitions Capability for Urban Operations, *US Army Command and General Staff College*, 2007.

Click [here](#) for the complete article

**This 88-page US staff college paper considers the integration of air force and army precision munitions in the joint force, and articulates a methodology to inform optimal employment.** The paper reviews the urban operating environment and its challenges for artillery and CAS, and explores the strengths and weaknesses of these platforms and munitions in this arena through consideration of 5 critical characteristics - range, risk, responsiveness and persistence, accuracy, and flexibility. The author

works this analysis into an Attack Guidance Matrix to aid in selection of the most appropriate system, and argues that for urban operations the crucial considerations must be accuracy and flexibility. This is an extremely practical, well-structured paper offering a workable tool for the commander.

Keywords: tactical, targeting, artillery employment, cas

### **Area Fire Weapons in a Precision Environment: Field Artillery in the MOUT Fight**

Cooley, Area Fire Weapons in a Precision Environment: Field Artillery in the MOUT Fight, *Marine Corps Command and Staff College*, 2005.

Click [here](#) for the complete article

**Rocket and cannon systems are compared for their efficacy in the urban combat environment in this 11-page brief for the USMC, and the author concludes that rockets are the logical choice for the commander - more accurate, more responsive, more lethal, and less demanding in manning and logistics.** The paper examines the characteristics and capabilities of the current systems - the 155mm M777 cannon and HIMARS rocket system - and considers counter arguments to his recommendation.

Keywords: tactical, targeting, artillery employment, bombardment, direct fs

### **Fight for Fallujah: TF 2-2 INF FSE AAR: Indirect Fires in the Battle of Fallujah**

Cobb et al, Fight for Fallujah: TF 2-2 INF FSE AAR: Indirect Fires in the Battle of Fallujah, *Field Artillery*, 2005.

Click [here](#) for the complete article

**An after-action review of US fire support in the second battle of Fallujah (November 2004) is presented in this 9-page article, which summarises fire support achievements, observations and shortcomings.** Writing for the US artillery corps magazine, the authors - personnel from the FSE - review the background, mission, and belligerents before detailing their artillery, mortar and CAS assets in the battle. Consideration is given to forward observers, equipment performance, UAV, and training, with observations for the urban environment including a redefinition of concepts of 'danger close' and the requirement for smaller adjustments of fire than the doctrinal minimum. While deeming fire support operations a success, the paper highlights limitations due to shortages of FSE personnel and concerns regarding sustainability had the battle run any longer. This is an informative addition to the Fallujah 2 literature, and will be of interest to the trainer and writer of doctrine.

Keywords: tactical, targeting, artillery employment, direct fs, artillery-indirect, uav, cas, mortars, iraq, fallujah

### **Artillery in Urban Operations: Reflections on Experiences in Chechnya**

Wallwork, Artillery in Urban Operations: Reflections on Experiences in Chechnya, *US Staff College Thesis*, 2004.

Click [here](#) for the complete article

**This 15-page staff college thesis examines the conflict in Chechnya (1994-2000) to evaluate the performance of Russian artillery and draw lessons for artillery employment in urban operations by western forces.** The author gives a comprehensive overview of the conflict, focusing on how Russian forces utilised artillery assets, and offers observations regarding the equipment and systems deployed and their effectiveness. The paper discusses the artillery 'lessons-learned' in Chechnya, and concludes by considering the repercussions for western urban doctrine and equipment. The author argues that western forces will be operating under more restrictive ROE, and investment in precision systems and training is required to optimise the effectiveness of artillery in the urban environment whilst minimising casualties and collateral damage. The paper includes tables and figures to illustrate key points, and is a readable and comprehensive discussion of the topic.

Keywords: operations, tactical, targeting, artillery employment, humanitarian, direct fs, artillery-indirect, artillery-direct, artillery- fusing, guided projectiles, chechnya, grozny

### **Use of the Multiple Launch Rocket System (MLRS) in Military Operations on Urbanized Terrain (MOUT)**

Hutton, Use of the Multiple Launch Rocket System (MLRS) in Military Operations on Urbanized Terrain (MOUT), *CALL*, 2002.

Click [here](#) for the complete article

**This 20-page collation of US doctrine is a handy primer for the non-specialist on the characteristics of MLRS and its potential application in the urban environment.** The paper describes: system capability and limitations; the elements of accurate fire; the general specifications of the M26 rocket and M39 missile and their munitions; and considerations for non-standard missions. This is a practical, concise reference for the planner and commander.

Keywords: tactical, artillery employment, artillery-indirect, rocket launchers

### **Use of Mortars in Military Operations on Urbanized Terrain (MOUT): A Review of Doctrinal and Associated Literature**

Hutton (Ed), Use of Mortars in Military Operations on Urbanized Terrain (MOUT): A Review of Doctrinal and Associated Literature, *Centre for Army Lessons Learned*, 2001.

Click [here](#) for the complete article

**This 23-page paper compiles current US doctrine relevant to the employment of mortars in the urban environment.** Writing for the US military, the author cut-and-pastes relevant army and marine publications into a one-stop-shop for information regarding the types, purpose, employment, considerations, and organisation of mortars in urban operations. A handy reference for the trainer and writer of doctrine.

Keywords: doctrine, tactical, artillery employment, artillery-indirect, mortars

### **Heavy Artillery: Military Operations in Urban Terrain (MOUT)**

Grieme, Heavy Artillery: Military Operations in Urban Terrain (MOUT), *US Army Command and General Staff College*, 1999.

Click [here](#) for the complete article

**The role of field artillery in support of restrained urban warfare is considered in this 72-page US staff college monograph which examines FS in three cases - Hue 1968, Lebanon 1982, and Chechnya 1994.** From the cases the author distils a set of common challenges which limit employment: communications; limiting collateral damage and non-combatant casualties; targeting accuracy and selection; the limitations on clearing fires; and lack of doctrine and TTPs. The paper discusses current and developing weapons platforms, smart-munitions and the paucity of doctrine, before hoping that improvements will overcome the identified challenges. The historical insights are interesting here, but the conclusion is strained - heavy artillery will have a role in constrained MOUT, so long as public perceptions of collateral damage get a little more realistic.

Keywords: doctrine, operations, artillery employment, guided projectiles, chechnya, israel/palestine, vietnam, grozny, hue, lebanon, artillery-indirect, combined-arms tactics

### **Getting it Right: Fire Support in MOUT**

Kolessar, Getting it right: Fire Support in MOUT, *US Army Command and General Staff College*, 1999.

Click [here](#) for the complete article

**Russian fire support actions in Chechnya 1994-95 are examined in this 48-page staff college monograph to identify changes necessary in US army doctrine.** The paper reviews the FS challenges provided by the MOUT environment, and then evaluates Russian performance in the case study before generating lessons-learned which need to be incorporated in evolving doctrine: command necessity to coordinate FS, manoeuvre, aviation and air-force; guidance to facilitate the massing of fires when necessary; and the establishment of consistent, disciplined ROE. The author also highlights the absence of attention paid to the employment of non-lethal methods. This is an operational level overview which will be of interest to the writer of doctrine.

Keywords: doctrine, operations, combined-arms tactics, artillery employment, direct fs, artillery-indirect, artillery-direct, chechnya, grozny

### **Protecting our Own: Fire Support in Urban Limited Warfare**

Allen, *Protecting our Own: Fire Support in Urban Limited Warfare*, *US Army War College*, 1999.

Click [here](#) for the complete article

**The tension between two divergent requirements of the urban battlefield - the desire to protect forces with fire-support, and the need to protect civilians from weapon effects - is enunciated in this 51-page US staff college research paper.** The author begins with an overview of the urban combat environment, 3-block-war concept, and IHL considerations, before presenting two illustrative vignettes - the Israeli's unintended yet not unexpected shelling of the Qana refugee camp in Lebanon, 1996, and the US disaster in Mogadishu, 1993. The paper argues that tech developments and doctrine upgrades are not sufficient for the challenge, and that forces need to organise and train for the complexity of urban war as well as educate leaders to the inherent costs and hazards. This is a conversational and engaging treatment of the dilemma which will be of utility to the trainer.

Keywords: concepts, tactical, targeting, artillery employment, ihl, direct fs, mogadishu, somalia, lebanon, israel/palestine

### **Operational Fires on the Urban Battlefield: An Underdeveloped Concept**

Langley, *Operational Fires on the Urban Battlefield: An Underdeveloped Concept*, *Naval War College*, 1999.

Click [here](#) for the complete article

**Arguing an unhelpful conceptualisation of urban combat as a primarily tactical fight has left the doctrinal treatment of operational fires underdeveloped, this 23-page monograph offers recommendations to remedy this and enhance operational capabilities.** Writing for the US military, the author frames the specific challenges of the urban arena for operational fires, and critiques the emerging joint MOUT doctrine. The paper explores concepts of employment including shaping the battlefield, isolating the enemy, facilitating friendly manoeuvre and restricting that of the enemy, and interdicting the enemy's uncommitted forces, and concludes that insufficient doctrine will compound the environmental challenges to effective employment. This is a frank and concise contribution which will be of interest to the planner and writer of doctrine.

Keywords: doctrine, operations, targeting, artillery employment

### **Precision Fire Support for MOUT**

Francey, *Precision Fire Support for MOUT*, *US Army Command and General Staff College*, 1994.

Click [here](#) for the complete article

**The preparedness of the fire support community to contribute to urban operations is considered in this 59-page monograph, and a case-study-informed scenario is presented detailing how precision fires can prove effective under restrictive ROE.** Writing for the US Army, the author conducts a review of doctrine - which he finds dated and inconsistent - and explores the history of FS in MOUT through Stalingrad, Hue, and Khorramshar. The paper considers the development of restrictions on ROE toward a minimal civilian casualty/collateral damage requirement, and presents a scenario for seizing a small city using insights from Panama (1989) to illustrate key points. The author concludes that compliance with restrictive ROE will become a critical area for assessing success in MOUT, and that the increasing accuracy of weapons systems - and the imaginative application of them - will allow this condition to be met. This is a strongly structured paper offering concrete tactical insights.

Keywords: concepts, tactical, isolation, direct fs, protective fs, artillery-indirect, artillery-direct, tanks, spgs, russia, vietnam, hue, stalingrad, khorramshahr, panama

## **ARMOUR**

### **The Future of the Armoured Corps in Military Operations in Urban Terrain**

Wong, *The Future of the Armoured Corps in Military Operations in Urban Terrain*, Canadian Forces College, 2018.

Click [here](#) for the complete article

**In this 17-page Canadian staff college paper the author argues that armour has a continuing contribution to make in urban operations, and illustrates capabilities with reference to recent operations in Fallujah 2004, Israel/Lebanon 2006, and Afghanistan 2007.** The paper is structured to five characteristics of armour - firepower, protection, flexibility, mobility, and the inability to hold ground - and around these are drawn anecdotes from the cases. This is a very general and lightly argued piece which may be of interest as an introductory overview for the non-specialist reader.

Keywords: combined-arms, armour

### **Fighting in Built-Up Areas**

Chevreuil, *Fighting in Built-Up Areas*, *Armor*, 2008.

Click [here](#) for the complete article

**Additional considerations for the tanker operating in urban areas are enunciated in this 9-page military journal article, which argues the environment demands either highly adapted vehicles and/or tailored combat teams.** The author - a French armoured officer - offers a quick summary of physical and population characteristics, before reviewing the shortcomings of the main battle tank in built up areas. The paper proposes possible fixes, discusses how best to match ammunition to threat, and considers crew, comms, protection, repair and logistics. This is a conversational, accessible piece well pitched to its tactical level audience, which will be of interest to the trainer.

Keywords: tactical, armour tactics, logistics, combat supplies, afv employment, tanks

### **The Battle of An Nasiriyah: The Tank and Mechanized Infantry Team in Urban Operations**

Steven, *The Battle of An Nasiriyah: The Tank and Mechanized Infantry Team in Urban Operations*, *Armor*, 2008.

Click [here](#) for the complete article

**The disastrous USMC thrust through An Nasiriyah (Iraq, 23 March 2003, en route to Baghdad) is examined in this 4-page military journal article, with the author arguing there are more lessons to be learned from this complex and confusing battle.** The paper provides an overview of the situation and narrates the battle with a focus on key events, unfolding dilemmas, and cascading consequences. Covering confused C2, wayward CS convoys, coms troubles, casevac difficulties, and FO/FAC failures, the battle culminates with fratricide from CAS. This is an instructive showcase of confusion and fog of war at the battalion level, which will be a useful reference for the instructor.

Keywords: tactical, combined-arms tactics, armour tactics, thrust, artillery-indirect, cas, iraq

#### **Armored Operations in Urban Environments: Anomaly or Natural Condition?**

Cameron, Armored Operations in Urban Environments: Anomaly or Natural Condition?, *Armor*, 2006.

Click [here](#) for the complete article

**This 6-page article for the US armoured corps journal presents an overview of armour employment and doctrinal development from WW2 to present to demonstrate that experience has not been incorporated into doctrine and training, requiring successive generations to relearn the same lessons.** The paper reviews US armour operations through Korea, Vietnam and the Cold War, and focuses on contemporary Iraq, identifying general trends and describing innovated TTPs. The author argues that urban operations must become a normal function of armour rather than treated as a special case, and that 'the time for relegating MOUT to field manual appendices is over.'

Keywords: doctrine tactical, combined-arms tactics, armour tactics, iraq

#### **Breaking the Mold: Tanks in the City**

Gott, Breaking the Mold: Tanks in the City, *CSI*, 2006.

Click [here](#) for the complete article

**This 146-page US army research paper gives an historical overview of the employment of tanks in urban combat by examining four case studies - Hue 1968, Beirut 1984, Grozny 1995, and Fallujah 2004.** The paper addresses each case in turn, examining contemporary armoured operational concepts and their capabilities, and then offering a narrative of the battle and an 'in retrospect' analysis of the battle's significance for tank employment. The author acknowledges the limitations of armour in the urban environment - and its need for close protection - and concludes that in all these cases it was the mobility and firepower of tanks which allowed the infantry to close with the enemy and that tanks remain the most effective all-weather system for delivering heavy ordnance to the target. This is a readable narration of these battles with an armoured focus, offering insights and anecdotes which will be of value to the trainer.

Keywords: tactical, armour tactics, tanks, chechnya, germany, israel/palestine, lebanon, vietnam, aachen, berlin, fallujah, hue, combined arms tactics

#### **Adequacy of US Army Tactical Doctrine for the Successful Employment of Armor in Offensive Urban Operations**

Shepherd, Adequacy of US Army Tactical Doctrine for the Successful Employment of Armor in Offensive Urban Operations, *US Army Command and General Staff College*, 2005.

Click [here](#) for the complete article

**This 96-page thesis analysis the adequacy of current urban armoured doctrine against four case studies - Aachen 1944, Beirut 1982, Grozny 1994-2000, and Baghdad 2003 - and makes recommendations for improvement. Writing for the US military, the author reviews current**

**doctrine, draws lessons-learned from the case studies, and compares the two.** The paper concludes that current doctrine at the tactical level is adequate, while recommending upgrades to SOPs and training, and a re-write of doctrine to incorporate learning from Iraq operations. With concise and informative case studies illustrating key points, this paper will be of interest to the writer of doctrine.

Keywords: doctrine, tactical, armour tactics, chechnya, germany, iraq, lebanon, aachen, beirut, grozny, baghdad

### **Armor in Urban Terrain: The Critical Enabler**

Chiarelli et al, *Armor in Urban Terrain: The Critical Enabler*, *Armor*, 2005.

Click [here](#) for the complete article

**This 5-page US armour corps journal article relates tactics and procedures used in and around Baghdad (2004).** The authors discuss developed techniques - the 'Sadr City Box', combined arms patrolling, and the 'lane attack' - which are illustrated with clear diagrams, and conclude with general observations including: the requirement to train for whole operations conducted hatch-closed; the importance of establishing 'points of domination'; and the effectiveness of creating stand-off and interior lines. This is a practical sharing of experience wholly focussed at the tactical level.

Keywords: tactical, combined-arms tactics, armour tactics, ttp, afv employment, apc, ifv, iraq, baghdad, sadr city

### **Task Force Iron Dukes Campaign for Najaf**

White, *Task Force Iron Dukes Campaign for Najaf*, *Armor*, 2004.

Click [here](#) for the complete article

**The commander of US forces in the 5-week fight for Najaf/Kufa (Iraq, 2004) offers tactical insights, references methods developed, and reflects on the success of the task force in this 5-page article.** Writing for the US armour corps magazine, the author summarises the situation, mission, and organisation of the belligerents before considering aspect including tempo, precision fires, shaping the battlefield, and combat leadership. The paper concludes with three takeaways: have a campaign plan with a realistic timeframe dictating a sustainable tempo; that US combat systems properly employed are unbeatable; and that combat leadership is critical for success. While understandable for its time and audience, this paper reads as hyper-positive and leaves the reader desiring a more critical dissection of aspects only obliquely alluded to.

Keywords: operations, tactical, combined-arms tactics, armour tactics, civil-military, afv employment, tanks, sharpshooting/sniping, uav, cas, iraq, najaf, kufa

### **Settle, Shock Effect or Ships Passing in the Night: The Role of Armored Forces in Fourth Generation Warfare**

Settle, *Shock Effect or Ships Passing in the Night: The Role of Armored Forces in Fourth Generation Warfare*, *US Army Command and General Staff College*, 2003.

Click [here](#) for the complete article

**The role of armour in operations against an irregular, non-state adversary is investigated in this 92-page staff college monograph, which examines the IDF incursion into Jenin (2002) to argue heavy shock forces can generate a coercive effect.** Writing for the US Army, the author explicates concepts of generational warfare, shock battle, and coercive theory, arguing that deterrence has limited applicability against non-nation-state actors. The case of Jenin is presented as an example of conventional armoured operations against a 4th generation adversary to achieve coercive effect. Current US Army thought and doctrine on the topic are discussed, with the author arguing for a 'doctrine

of shock' to plug shortfalls in addressing coercion. The paper includes appendices: a comprehensive chronology of the 2nd Intifada, and IDF perspectives on Jenin.

Keywords: theory, doctrine, operations, armour tactics, afv employment, bulldozers, israel/palestine, jenin

### **Tough Bows and Iron Blades: Modifying the M1 for Urban Battle**

Bridges & Evans, *Tough Bows and Iron Blades: Modifying the M1 for Urban Battle*, *Armor*, 2003.

Click [here](#) for the complete article

**This 7-page US armour corps journal article acknowledges that the M1 is not optimised for urban combat and suggests a range of current, bolt-on systems to enhance capability.** The article discusses the challenges posed by the urban environment to combined infantry/armour operations, and discusses a range of fixes addressing identified shortfalls in firepower, survivability, mobility and protection. This is a concise, persuasive treatment of the topic making concrete recommendations.

Keywords: tactical, armour tactics, afv employment, afv fs, afv shielding, bulldozers, tanks, combined arms tactics

### **Assessing a Suitable Contribution of the French Armor Branch to the Doctrinal Development of Violence: Mastering Operations in the Urban Environment**

Millet, *Assessing a Suitable Contribution of the French Armor Branch to the Doctrinal Development of Violence: Mastering Operations in the Urban Environment*, *US Army Command and General Staff College*, 2003.

Click [here](#) for the complete article

**This 100-page staff college thesis considers the French approach to the employment of armour in OOTW, and calls for doctrinal reform to create a proactive, integrated role maximising its potential in the urban environment.** The author reviews current French doctrine and examines the employment of armour in Kosovo, Grozny, Mogadishu, and Israel/Palestine, specifically considering the contribution it can make to the control of violent crowds. The paper suggests that erroneous initial assumptions have created doctrine which precludes a dynamic role for armour in OOTW, and that a range of reforms are required in doctrine, training, and force structure. This is a well-developed argument for a deliberate, pro-active utilisation of armoured assets outside their war-fighting role, and offers insights which may be of interest to the writer of doctrine.

Keywords: doctrine, operations, armour tactics, civic, policing, afv employment, chechnya, israel/palestine, mogadishu, kosovo, bosnia, grozny

### **Urban Combat: Is the Mounted Force Prepared to Contribute?**

Kendrick, *Urban Combat: Is the Mounted Force Prepared to Contribute?*, *US Army Command and General Staff College*, 2001.

Click [here](#) for the complete article

**This 52-page staff college monograph asserts US Army armour and mechanised manoeuvre units are not prepared for high intensity urban warfare, and analyses what will be required to improve capability.** The author considers three cases - Hue 1968, Suez City 1973, and Grozny 1995 - to illustrate the challenges for mounted units in urban combat. The paper then examines current army doctrine, training, and leadership development, and concludes that innovations are required in organisation, training, and leadership philosophy to maximise effectiveness. The author insists the army must accept and ingrain the reality of urban warfare into its culture, and draws from the cases critical leadership skills for the urban leader: C2 of decentralised forces; managing the non-combatant dynamic; wielding non-traditional

combinations of forces; and conducting operations according to ROE. This is a readable paper with particularly instructive case studies which will be of interest to the writer of doctrine and the trainer.

Keywords: tactical, combined-arms tactics, armour tactics, chechnya, israel/palestine, vietnam, grozny, suez city, hue

### **Busting the Barricades: How Armor was Employed in the Urban Battle for Seoul**

Fath, Busting the Barricades: How Armor was Employed in the Urban Battle for Seoul, *Armor*, 2001.

Click [here](#) for the complete article

**Tactical observations from the battle for Seoul (1950) are examined in this 6-page journal article to argue the integral role of armour in an essential combined-arms approach to urban combat.**

Writing for the US Armoured Corps journal the author presents the battle, describing the terrain, the North Korean defensive scheme, and the US tactical response developed to overcome successive strongpoints and barricades. This is a concise paper, integrating direct quotes into an engaging narrative which will be of interest to the trainer.

Keywords: tactical, combined-arms tactics, infantry tactics, armour tactics, seoul

### **Tanks in the Street: Lessons Learned Through Bytes not Blood**

Nussio, Tanks in the Street: Lessons Learned Through Bytes not Blood, *US Army Command and General Staff College*, 2001.

Click [here](#) for the complete article

**The disastrous Russian armoured thrust into Grozny on New Year's Eve 1994 is computer simulated and analysed for lessons-learned in this 48-page US staff college monograph.**

The paper provides a narrative of the battle, and explains how the simulation was constructed and operated, focussing on two variables - the number of Russian infantry employed, and the relative level of training of the belligerents. The author compares the data from multiple iterations and finds that training levels are the most influential factor for success or failure, but no reasonable manipulation of the variables could overcome the miserable tactical application of the Russian armoured force. Confirming that armour requires dismounted security - and the lethality of the venerable RPG-7 at close range - this paper provides a different treatment of a well-studied case, and may be of interest to the trainer.

Keywords: tactical, combined-arms tactics, armour tactics, chechnya, grozny, rpg-7

### **Fighting Downtown: A Training Necessity for the Heavy Brigade**

Seigel, Fighting Downtown: A Training Necessity for the Heavy Brigade, *US Army Command and General Staff College*, 2001.

Click [here](#) for the complete article

**The preparedness of US armour for urban operations is analysed in this 53-page staff college monograph, which concludes doctrinal initiatives are encouraging, but training shortfalls leave the heavies unprepared.**

The paper reviews current doctrine/training and focuses on readiness for: full spectrum urban operations; infantry and joint integration; the use of available equipment and technology; and the ability to combat anticipated threat tactics, which the author distils from a lessons-learned analysis of Mogadishu (1993) and Grozny (2004-2001). The author makes recommendations including construction of dedicated armour/urban range facilities, and a more robust integration of emerging urban doctrine into training curriculum.

Keywords: doctrine, armour tactics, chechnya, somalia, grozny, mogadishu

### **Modifying the Abrams Tank for Fighting in Urban Areas**

Partridge, Modifying the Abrams Tank for Fighting in Urban Areas, *Armor*, 2001.

Click [here](#) for the complete article

**This 7-page journal article for the US Armoured Corps journal considers the shortcomings of the Abrams tank in the urban environment, and suggests practical fixes utilising existing technologies.**

The paper identifies issues with elevation/depression limits on firepower, visibility in the dead-space around and above tanks, and force protection. The author then reviews a range of products to enhance capability: Precision .50cal MGs, grenade launchers, and anti-personnel cannister munitions; fibre-optic cameras and projectile detection systems for situational awareness; and add-on armour. This is a frank, concise, and practical paper.

Keywords: armour tactics, afv employment

### **A Tale of Two Cities: Hue and Khorramshahr**

Lamont, A tale of Two Cities: Hue and Khorramshahr *Armor*, 1999.

Click [here](#) for the complete article

**A USMC officer offers a quick review of two cases - Hue 1968, and Khorramshahr 1980 - to argue that not only can armour dominate in the urban battlespace, but that it offers substantial enhancement of tactical performance.** This 3-page corps journal article scrutinises armour employment in the two battles, and analyses battle losses for attacker/defenders to contrast Hue - where only the attacking force wielded armour- with Khorramshahr where both sides deployed armoured units. This is a short, readable argument which will be of interest to the trainer.

Keywords: tactical, combined-arms tactics, armour tactics, vietnam, hue, khorramshahr

### **Urban Warfare Mobility Analysis**

Booz-Allen & Hamilton, Urban Warfare Mobility Analysis, *USMC Systems Command*, 1998.

Click [here](#) for the complete article

**This 77-page report establishes the mobility requirements for the USMC suite of light armoured vehicles in urban operations, and makes recommendations for improvement.** The study examines doctrine, data, lessons learned and emerging operating concepts to frame the challenge and identify improvement options: enhanced counter-mine and obstacle clearance capability; survivability and self-protection considerations - particularly reducing dead space and thwarting attack from above; increased agility - turning radius, ground clearance, acceleration, and run-flat capability; and improvements to CSS regarding sustainment and CASEVAC efficiencies to maintain tempo. While the vehicles are dated, the considerations of urban requirements are well considered and will be of interest to armoured and combined arms operators.

Keywords: tactical, armour tactics, combat supplies, medical support, afv employment

### **Tanks: Fulfilling a Role in Military Operations in Urban Terrain (MOUT)**

Harris, Tanks: Fulfilling a Role in Military Operations in Urban Terrain (MOUT), *US Army Command and General Staff College*, 1998.

Click [here](#) for the complete article

**This 61-page US staff college monograph examines three case studies - Hue 1968, Mogadishu 1993, and Grozny 1994-95 - to articulate the role, capability, and limitations of tanks in urban warfare.**

The paper begins by reviewing the evolution of tanks and their employment, and queries whether a technology designed for long range battle in open terrain has the characteristics necessary for success in the urban environment. Next, the nature of urban operations is explored to describe the limitations and vulnerabilities it imposes on armour, and the case studies are presented to identify the contribution tanks make to the urban fight. The author concludes that tanks are indeed effective in urban terrain, provided they are properly integrated into combined arms teams, and the teams have been properly trained.

Keywords: tactical, combined-arms tactics, afv employment, tanks, chechnya, somalia, vietnam, grozny, mogadishu, hue

### **Colossus on Main Street: Tactical Considerations of Heavy Armor and Future MOUT Doctrine**

Lapham, *Colossus on Main Street: Tactical Considerations of Heavy Armor and Future MOUT Doctrine*, US Army Command and General Staff College, 1996.

Click [here](#) for the complete article

**A paucity of doctrine to guide the tactical employment of the main battle tank in urban combat is identified in this 61-page US staff college monograph, which argues a place for tanks in the urban fight as a member of the combined arms team.** Writing for the US Army the author conducts a review of current doctrine to highlight shortfalls at all tactical levels, and offers an historical perspective on this doctrinal deficit with reference to the battles of Aachen 1944, Berlin 1945, Hue 1968, and Suez City 1973. The author argues that the incorrect lessons have been drawn from Suez City, which have driven a doctrinal antipathy to tanks in the urban environment.

Keywords: doctrine, tactical, germany, israel/palestine, vietnam, aachen, berlin, hue, suez city, combined arms tactics, armour tactics

### **Light Armor MOUT Doctrine: Imperative Change or Business as Usual?**

Mosher, *Light Armor MOUT Doctrine: Imperative Change or Business as Usual?*, US Army Command and General Staff College, 1993.

Click [here](#) for the complete article

**This 64-page monograph critiques armoured doctrine's relevance in supporting infantry on urban terrain, and lobbies for the creation of a single, combined infantry/armour doctrine for MOUT.**

Writing for the US Army, the author reviews current doctrine, and highlights the paucity of combined training - a result, he argues, of the 'tanks will avoid built up areas' paradigm. Three urban cases are analysed for their infantry/armour dynamic - Hue 1968, Suez 1973, and Panama 1989 - and the paper concludes that: tanks are essential in urban combat; they must operate in conjunction with infantry; and that tactical proficiency will require combined training. These are particularly readable, armour-focused case studies which will be of interest to the trainer.

Keywords: doctrine, tactical, combined-arms tactics, armour tactics, israel/palestine, vietnam, hue, panama, suez city

### **Players or Spectators? Heavy Force Doctrine for MOUT**

Kennedy, *Players or Spectators? Heavy Force Doctrine for MOUT*, US Army Command and General Staff College, 1990.

Click [here](#) for the complete article

**This 62-page monograph reviews military theory, contemporary commentary, and historical case studies - Aachen 1944, Suez City 1973, and Khorramshahr 1980 - to develop a set of propositions against which to assess current UO doctrine.** The author's analysis suggests three basic concepts

remain unrecognised in doctrine: urban attacks are time consuming; combined arms are necessary for success, especially dismounted infantry in conjunction with large-calibre direct-fire armour; and defenders should have a counterattack capability. The paper concludes with the recommendation that these propositions be included in updated doctrine, and that armoured unit manuals be revised to remove current discrepancies.

Keywords: doctrine, combined-arms tactics, armour tactics, aachen, suez city, khorramshahr

## INFANTRY

### **Insurgent Attack in Ramadi: Platoon Leader Recounts Urban Engagement**

Clark, Insurgent Attack in Ramadi: Platoon Leader Recounts Urban Engagement, *Infantry*, 2009.

Click [here](#) for the complete article

**A platoon commander recounts his experience of a small urban action in Ramadi (Iraq, 2006) and reflects on the strengths and weaknesses of his leadership response and the performance of the platoon.** Writing for the US infantry corps magazine, the author relates the situation in Ramadi prior to the ill-fated patrol, and narrates the unfolding incident which commences with an enemy sniper downing one of the patrol. This is a personal, frank piece highlighting the effectiveness of drills and the importance of radio discipline under pressure, and will be a useful vignette for the trainer.

Keywords: tactical, combined-arms tactics, infantry tactics, ambush, afv employment, sharpshooting/sniping, iraq, ramadi

### **Enemy Inside the Gates: Snipers in Support of Military Operations on Urbanized Terrain**

Dearolph, Enemy Inside the Gates: Snipers in Support of Military Operations on Urbanized Terrain, *US Army Command and General Staff College*, 2002.

Click [here](#) for the complete article

**This 53-page monograph proposes the formation of division level sniper companies as the most effective tool to defeat the urban enemy whilst ensuring a minimum of civilian casualties.** Writing for the US military, the author analyses the contemporary operating environment to articulate the urban target set - combatants operating amongst non-combatants, enemy snipers, and special purpose teams - and reviews current sniper doctrine/organisation/training to establish they are indeed capable of countering this threat. Other possible solutions for defeating these target sets are considered, and discarded as less effective or of higher risk for civilians. The paper then outlines the organisation and deployment of the proposed sniper company. This is a well-structured and persuasive argument, supported by informative examples of sniper employment and capability from a wide range of operations and contexts.

Keywords: operations, operational-level, tactical, sharpshooting/sniping

### **An Attack on Duffer's Downtown**

Glenn, An Attack on Duffer's Downtown, *RAND*, 2001.

Click [here](#) for the complete article

**Russel Glenn, urban warfare commentator and researcher with the RAND corporation, delivers a lyrical, fictionalised series of combat vignettes to highlight the exigencies of modern urban operations and offer a futurist vision of infantry tactics.** Inspired by the 1904 Ernest Swinton short novel of the Boer War - The Defence of Duffer's Drift - the essay follows a company commander as he struggles repeatedly to clear the same city block in a nightmare comprised of six dreams. The last two

dreams find the narrator as unwilling spectator while his son repeats the effort in 2024, and the dreamer extracts 35 lessons from the nightmare. This is a refreshing, genre-busting angle from an influential author which offers a novel opportunity for the trainer to engage the audience with imaginative content.

Keywords: infantry tactics

### **The Urban Warrior: What are the Dismounted Infantry Skills Necessary to Survive in Today's Urban Fighting?**

Glaze, *The Urban Warrior: What are the Dismounted Infantry Skills Necessary to Survive in Today's Urban Fighting?*, *US Army Command and General Staff College*, 2000.

Click [here](#) for the complete article

Infantry urban training facilities, programs, and initiatives are scrutinised in this 68-page staff college thesis, and deficits in essential skills identified. Writing for the US army the author reviews the MOUT ACTD program, 1st Division and 75th Ranger Reg training programs, and the facilities at the JRTC and Cope Hill Downs (UK) ranges. Analysing outcomes and priorities, the paper nominates seven areas of concern regarding infantry capability - reaction to contact, consolidation and re-org, overwatch and SBF, assault, conducting a search, and moving tactically - the author emphasising that the city fight is 'more than a room clearing drill'. While this snapshot-in-time of programs and places may date the paper, the training priorities may be of continued interest to the trainer.

Keywords: doctrine, tactical, infantry tactics

### **Considerations for Operations on Urban Terrain by Light Forces**

Latimer, *Considerations for Operations on Urban Terrain by Light Forces*, *US Army Command and General Staff College*, 1985.

Click [here](#) for the complete article

**This 217-page staff college thesis analyses three historical examples - Stalingrad 1942-3, Hue 1968, and Lebanon 1982 - in order to draw commonalities to inform infantry techniques, doctrine, and equipment.** This strongly structured paper for the US army presents overviews of the battles, and dissects each under a large set of common headings including C3, tactics and task organisation, and weapon effect and usage. Despite the disparity of the cases in time, place, and nationality, the author finds a degree of congruence which he suggests provide some universal considerations for the urban warrior: the value of mutually supportive strong points, snipers, Intel, and the local counter-attack; a requirement for effective anti-armour weapons, anti-tank mines, body armour, and FS; and skills in engineering, demolition, and first aid. This is a comprehensive paper offering constructive insights into high intensity, unconstrained close battle.

Keywords: concepts, operations, tactical, infantry tactics, israel/palestine, lebanon, russia, vietnam, hue, stalingrad

## **ENGINEERS**

### **The Combat Corps Wheeled Battalion in the Divisional Warfight: Combat Engineering in an Urban Environment**

Chesser & Roth, *The Combat Corps Wheeled Battalion in the Divisional Warfight: Combat Engineering in an Urban Environment*, *Engineer*, 2005.

Click [here](#) for the complete article

**This 5-page article summarises the deployment of the 458th Engineering Battalion, a US Army reserve unit mobilised in 2003 and operating in Baghdad and Fallujah 2004.** The authors - CO and XO - give a general rundown of planning, training, and then operating in Iraq. Tasks covered include: route clearance ops ('our bread-and-butter missions'); force protection engineering; heavy rescue; civic project and humanitarian assistance support; and reorganising to raise a platoon to fight as infantry. The article is a good highlight of the multiple roles engineers could be called upon to complete in the urban environment.

Keywords: operations, engineer employment, aev, ied, iraq, baghdad, fallujah

### **Breaching Around Corners: Engineer Operations in Urban Environments**

Funkhouser, Breaching Around Corners: Engineer Operations in Urban Environments, *Defence Technical Information Centre*, 2003.

Click [here](#) for the complete article

**This 6-page journal article presents a range of additional considerations for Military Engineers when conducting a Battlefield Assessment for operations in urban areas.** Drawing on his own experience and US urban doctrine, Funkhouser discusses the challenges, responsibilities, and new technologies present when working to understanding the battlefield terrain, threat profile, and impediments to manoeuvre. The paper considers a range of additional challenges; force protection, logistics, collateral damage, integration of allied capabilities, and preparation to handover to civilian authorities. The author contends that many engineering requirements have multi-layered repercussions which need to be considered, and urges colleagues to start 'thinking through the urban fight'. This is an effective conversation-starter from a serving engineer commander, and will be of particular interest to trainers and the writer of doctrine.

Keywords: doctrine, operations, engineer employment, logistics, civic

### **Planning Engineer Support for an Urban Attack**

DeJarnette, Planning Engineer Support for an Urban Attack, *Engineer*, 2003.

Click [here](#) for the complete article

**A US army engineer collates lessons learned from observing attacks at the JRTC (joint readiness training centre) into a handy 7-page planning reference.** The author begins with a series of questions to focus mission analysis and a summary of the products available to support the decision-making process before addressing planning considerations for R&S, mobility, counter-mobility, and survivability. The paper offers a staff planning checklist and identifies crucial points for the engineer in the urban environment: structures as key terrain; underground and multi-layered above-ground dimensions; the terrain's enhancement of enemy mobility and survivability, while increasing mobility requirements for friendly forces; the essentiality of urban-specific rehearsals; and the need for the decentralised - yet synchronised - execution of tasks. This is a practical enhancement of doctrine which will be of use to those with an interest in training.

Keywords: tactical, engineer employment

### **Tactical Mobility of the Medium Weight Force in Urban Terrain**

Johnson, Tactical Mobility of the Medium Weight Force in Urban Terrain, *US Army Command and General Staff College*, 2000.

Click [here](#) for the complete article

The mobility capability of the US Interim Brigade Combat Team (IBCT) is called into question in this 65-page staff college paper, which suggests shortfalls will degrade its ability to manoeuvre and act decisively. Written for the US Army, the paper determines the organic mobility capability of the IBCT

by an examination of doctrine, systems, equipment, TTPs, and its organisation and employment concept. This capability is tested against the challenges of the urban operating environment, incorporating insights from recent operations, against criteria of feasibility, acceptability, and suitability. The author concludes that a lack of non-explosive mobility options and the absence of specialised engineer assets will hinder operations.

Keywords: doctrine, tactical, engineer employment, aev, bulldozers

### **“Army After Next” Tactical Roles in Complex Urban Terrain**

Funkhouser, AAN Tactical Roles in Complex Urban Terrain, *US Army Command and General Staff College*, 1998.

Click [here](#) for the complete article

**The US Army After Next future concept includes no specialist combat engineers at the tactical level, assuming future tech will enable infantry to address their own mobility requirements this 55-page staff college monograph analyses the adequacy of this assumption.** The paper examines two recent operations - Mogadishu 1993 and Grozny 1994-95 - to identify the engineering requirements on the modern urban battlefield, and reviews the technological expectations within the AAN. Next, the capacity of soldiers to integrate both combat and combat engineering tasks is explored in relation to achieving and maintaining proficiency, physical load carriage, and the cognitive challenge involved. The author argues that there will remain a role for specialist engineers at the tactical level, as it is beyond human capacity to execute all mobility tasks and still effectively employ future weapons systems.

Keywords: doctrine, tactical, engineer, chechnya, somalia, grozny, mogadishu

### **The Use of the AVRE in Urban Warfare**

Clarke, The Use of the AVRE in Urban Warfare, *The Royal Engineers Journal*, 1984.

Click [here](#) for the complete article

**An engineer commander examines the tasks and capabilities of the Armoured Vehicle Royal Engineers (AVRE) when operating in the urban environment in this 3-page article for the UK engineering corps journal.** The author briefly reviews the cold-war threat and the characteristics of the urban environment relevant to armour before considering the employment of the AVRE: route maintenance and denial, obstacle creation, protected delivery of engineer teams, demolition/reduction of strongpoints, and the dozing of spoil to cover mines or to deceptively give this impression. The paper also conceives of the AVRE in an aggressive posture as direct fire support for infantry, noting that in the closeness of the urban environment the AVRE will be dependent on close infantry for protection.

Keywords: tactical, armour tactics, demolition, wall charges, afv employment, aev, bulldozers

### **Engineer Support to Urban Operations**

Bevan, Engineer Support to Urban Operations, *Royal Engineers Journal*, 1981.

Click [here](#) for the complete article

**Methods of engineering urban areas for defence are reviewed, and improvements are identified, in this 5-page corps-journal article which focuses firmly on preparations against a Soviet attack of Europe.** The paper considers the constraints on engineer activity in this environment, discusses the tactical considerations dictating the evacuation or defence of a specific urban area, and explores capability for creating obstacles and assisting with the preparation of defensive positions. The author identifies time as the vital factor - arguing that engineering concepts requiring the least effort will pay the greatest dividend - and suggests a range of initiatives to this end. This is an informative overview which makes concrete recommendations and is accessible to the non-specialist.

Keywords: operations, tactical, engineer employment, strongpoint defence

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## TACTICAL, TACTICS, TECHNIQUES AND PROCEDURES

### **Close Quarters Combat: Urban Combat and ‘Special Forcification’**

King, Close Quarters Combat: Urban Combat and ‘Special Forcification’, *Armed Forces and Society*, 2016.

Click [here](#) for the complete article

**This 38-page journal article describes CQB techniques and explores the operational and institutional motivations for their dissemination from special forces to regular infantry.** The author draws on interviews and observations of training to contextualise CQB in current western military thought, describing the development of individual and collective drills for room clearance to illustrate the utility of CQB tactics. The paper next introduces the concept of ‘special forcification’ - the adoption of high-status practice to signal legitimacy and relevance - and queries whether this is a contributing element to the rapid adoption of CQB amongst western forces. This is an informative article, combining practical observations with provocative analysis of internal military motivations, and will be of interest to senior decision makers and force training staff.

Keywords: policy, tactical, infantry tactics, cqf, detailed drills, sharpshooting

### **3/2 SBCT and the Countermortar Fight in Mosul**

Stevens & Marsh, 3/2 SBCT and the Countermortar Fight in Mosul, *Field Artillery*, 2005.

Click [here](#) for the complete article

### **US officers describe TTPs developed within their Stryker Brigade Combat Team (SBCT) in Mosul (2004) to locate and destroy enemy mortar teams without resort to traditional lethal counterfires.**

Written for the US artillery corps magazine, this 4-page article describes the situation in Mosul, detailing insurgent TTPs and the capabilities and fire support assets of the SBCT. Acknowledging that lethal counterfires would be detrimental to the mission in Mosul, the paper next describes the alternative countermortar system developed - a synchronised combined arms response driven by intel/analysis intended to apply constant pressure to the enemy by disrupting their setup through TCPs and PSYOPS/HUMINT pressure, restricting their avenues of escape and manoeuvring against them rather than using counter-battery fire. This is an informative, concise paper which will be of interest to the writer of doctrine.

Keywords: tactical, intelligence support, information operations, combined-arms tactics, artillery employment, artillery-indirect, mortars, iraq, mosul, ttp

### **The Platoon Raid: High-Intensity Urban Operations Changing to Precision Urban Operations**

Lee, The Platoon Raid: High-Intensity Urban Operations Changing to Precision Urban Operations, *Armor*, 2006.

Click [here](#) for the complete article

### **This 7-page US military journal article describes TTPs developed in Iraq to conduct raids more considerate of the local population, in contrast to doctrinal high-firepower combat techniques.**

The paper discusses the structure and usage of local dwellings, and details task organisation, sequence of events, equipment requirements, room/building clearing procedures, and training/rehearsals. The author emphasises the importance of training for different intensities dependant on conditions. This is a clear, concise exposition of on-the-ground practice which will be of interest to anyone considering scaling and tailoring urban operations.

Keywords: tactical, infantry tactics, ttp, detailed drills, building clearing, iraq, baghdad

## **Urban Operations 2004**

Urban Operations 2004, Elliot-Square, *British Army Review Special Report-Urban Operations-Volume 1 Winter 2018*, 2005.

Click [here](#) for the complete article

**This 11-page British Army journal article offers an overview of tactical level considerations as taught at the Copehill Downs urban training facility (UK).** The author reviews the phases for offensive and defensive operations, and discusses the lessons learned by Russian forces in Grozny which have been incorporated into instruction - know your opponent and ground, prepare, choose the right weapon, adjust tactics to the situation, and anticipate communications problems. The piece concludes by identifying complexities for future operations; ROE, cultural training, civilian interactions, Info Ops, and inter-agency cooperation. This is a broad, general piece which may offer introductory insights for military training staff.

Keywords: tactical, infantry tactics

## **Military Operations on Urbanized Terrain (MOUT)**

Urban Attacks: Military Operations on Urbanized Terrain (MOUT), *USMC, Marine Corps Warfighting Laboratory*, 2001.

Click [here](#) for the complete article

**This 39-page handbook integrates doctrine and TTPs with insights garnered from the US Marine Corps Warfighting Laboratory to produce a handy reference on urban attacks at the squad level.** The publication addresses planning, building assaults, clearing techniques, and uses experimental research results to inform tips, considerations, and tactics. This is a practical, concise resource designed for use in the field, and will be of particular interest to the trainer.

Keywords: tactical, infantry tactics, detailed drills, entry drills, building clearing, doctrine

## **MOUT: Decision Making in Action**

McDermott et al, MOUT: Decision Making in Action, *US Army Research Institute*, 2001.

Click [here](#) for the complete article

Full tech report with interviews and complete decision list, click [here](#) for the report

**This 44-page training-aid aimed at platoon commanders elucidates the key decisions required in building clearance.** The paper presents a step-by-step overview of the decision-making process for the 5 stages of clearance, drawing insights from cognitive task analysis interviews with veterans. The paper specifies five additional skills for the leader - thinking like the enemy, maintaining situational awareness and the big picture, projecting into the future, applying ROE, and leading subordinates - which are discussed and demonstrated through a recurring vignette of a commander in action. This is a concise and focussed learning tool which will be of interest to the trainer.

Keywords: tactical, infantry tactics, cqf, building clearing

## **Combined Arms: Military Operations on Urbanized Terrain (MOUT)**

Combined Arms: Military Operations on Urbanized Terrain (MOUT), *USMC, Marine Corps Warfighting Laboratory*, 1999.

Click [here](#) for the complete article

**This 38-page field handbook from the Marine Warfighting Laboratory enhances urban combined arms doctrine with TTP generated from analysis and feedback during marine training and experimentation.**

Presented as a handy, quick-reference pocket guide, the handbook addresses the tasks, employment, co-ordination, and targeting of the combined arms available to the marine task force - artillery, mortars, naval fires, anti-armour, MG, snipers, CAS, Helicopters, engineers, and the armour/infantry relationship. This is a practical product focused at the tactical level, and will be a resource of interest to the trainer.

Keywords: tactical, combined-arms tactics, ttp

### **Some Notes on Fighting in Built Up Areas (FIBUA)**

Jenkins, Some Notes on Fighting in Built Up Areas (FIBUA), *British Army Review Special Report-Urban Operations-Volume 1 Winter 2018*, 1983.

Click [here](#) for the complete article, via British Army Review special report

**Envisaging urban defence against a Soviet invasion of Western Europe, this 9-page journal article seeks to address a paucity of tactical urban doctrine in the British army by providing 'food-for-thought' perspectives.** The author gives his thoughts on considerations for: time and workload; casualties and kit; communications; snipers; Soviet COA; civilian population; and a more extended exploration of subterranean operations, urging that; "we must learn to be ferrets". Focused at the tactical level, this is a 'brainstorm' type paper which may be of utility to the trainer. The author continues this theme in More notes on FIBUA, 1984, which can be found at the same link.

Keywords: tactical, tunnels

### **More Notes on FIBUA**

Jenkins, More Notes on FIBUA, *British Army Review Special Report-Urban Operations-Volume 1 Winter 2018*, 1984.

Click [here](#) for the complete article

**TTPs for urban defence are articulate in this 11-page journal article for the British Army.** Seeking to flesh out the standard publications, the author provides confident, personal insights into: exterior defences, standard and improvised; entry breaching considerations; interior defensive preparation; anti-armour employment; and siting and fields of fire. This is focussed on tactical level, unrestrained, high intensity combat versus a Soviet enemy and is the second part of Some notes on fighting in built up areas (FIBUA), 1983, which can be found at the same link.

Keywords: tactical, infantry tactics, ttp, strongpoint defence, anti-tank gun

### **Urban Warfare: A First Report**

Manata & Long, Urban Warfare: A First Report, *US Army Armament Command Research Directorate*, 1975.

Click [here](#) for the complete article

**This 198-page technical report devises a methodology to analyse the most effective weapons mix for the small infantry unit, and present concepts for additional weaponry to increase capability in the urban environment.** In addition, testing data is gathered on urban-specific considerations including: penetration of materials, ricochet, grenade lethality in confined spaces, aiming accuracy versus fleeting targets, and the detection/location of targets and firing weapons. The analysis produces outcomes at the squad level, including increased lethality through employment of grenade launchers, the effectiveness of multi-purpose weapons, and the decided advantage accrued by the side initiating battle (whether in offense or defence). Preliminary concepts are presented for development of a wall breaching/anti-armour infantry weapon and a fuel-air concussion grenade. This is a data driven paper which, despite its age, presents insights which retain relevance.

Keywords: tactical, infantry tactics, breaching, grenades, grenade launchers

## BREACHING, ENTRY AND WEAPON EFFECTS

### Breaching and Urban Warfare Devices

Mischori, Breaching and Urban Warfare Devices, *Journal of KONES*, 2007.

Click [here](#) for the complete article

**This 4-page marketing paper presents the urban breaching products available from Israeli defence company Rafael.** The paper outlines the general specifications and usage of its range of disposable, shoulder fired, fire-from-enclosure capable products: the SIMON rifle-launched door breaching grenade; the MATADOR range of wall-breaching, mouse-holing, fortification destroying, anti-armour weapons; and the hand emplaced URBAN STAR for vertical and horizontal employment as a wall-breaching munition or for cratering/fox-holing.

Keywords: infantry tactics, engineer employment, mouse holing, door disruption, wall charges, he breaching projectile, rifle grenades, tube launchers

### Breaching Fortified Positions and Obstacles

Morin & Cobb, Breaching Fortified Positions and Obstacles, *Armor*, 1999.

Click [here](#) for the complete article

**This 2-page article for the US armour corps magazine introduces three new breaching munitions which may have applications in urban warfare.** The paper describes the XM908, a 120mm HE-OR-T (HE-Obstacle Reducing-Tracer) tank round which has been introduced to US forces in Korea to replace the capability of the retiring combat engineer tank (CEV - combat engineer vehicle). Next, infantry/engineer weapons are introduced: the XM141BDM (bunker defeat munition), a shoulder launched disposable bunker and light armour weapon; and the M150 PAM (penetration augmented munition), a hand emplaced breaching charge. The authors suggest these munitions will have a contribution to make in the likely future theatres of urban war.

Keywords: tactical, infantry tactics, armour tactics, engineer employment, wall charges, he breaching projectile, tube launchers

### Breaching Walls in Urban Warfare

Hartle, Breaching Walls in Urban Warfare, *US Army Command and General Staff College*, 1975.

Click [here](#) for the complete article

**The requirement for a wall breaching capability for infantry is established in this 95-page staff college thesis, and possible tech solutions are discussed to address this shortfall in US inventory.** Writing for the US Army, the author presents a collection of battle vignettes to define the need for this capability - Stalingrad 1942, Ortona 1943, Brest 1944, Manila 1945, Jerusalem 1948, Santo Domingo 1965, and Hue 1968. The paper next scrutinises US infantry equipment and weaponry to demonstrate this capability is currently lacking. The paper closes with an examination of existing and emerging tech in explosive charges and munitions, to argue that a solution is available if the issue is given appropriate focus in development and procurement. This is a detailed paper working at a practical level, with insights still relevant despite its age.

Keywords: doctrine, tactical, infantry tactics, wall charges, breaching projectile, hue, jerusalem, santo domingo, manila, orton, stalingrad, brest, he

## **Weapons Effects in Cities Volume 1**

Weapons Effects in Cities Volume 1, *DARPA*, 1974.

Click [here](#) for the complete article

**This 124-page technical report for the US Army identifies urban combat tasks and weapon usage in order to evaluate the effectiveness of the current standard weaponry of the US Army, and to make recommendations for testing and acquisition.** The paper analyses the combat experience from a range of city-fights since WW2 to give a tool-to-task analysis of the army arsenal, and, while arguing there is little reason to develop urban-specific weapons, pinpoints a development requirement for: a shoulder-fired, no-back-blast anti-tank weapon; hand employed wall breaching charges; and rifle grenades. The paper finds information to be deficient regarding the lethality and combat accuracy of many current weapons, and proposes testing concepts to fill the gap. This is a readable, plain-language examination of the nature of urban combat and the capabilities required of the urban soldier.

Keywords: tactical, wall charges, he breaching projectile, grenades, afv employment, rifle grenades, tube launchers, small arms

## **ANTI-ARMOUR AND COMBINED ARMS**

### **Operation New Dawn: Fallujah**

Operation New Dawn: Fallujah, Shipley, *British Army Review Special Report-Urban Operations-Volume 1 Winter 2018*, 2013.

Click [here](#) for the complete article, via British Army Review special report

**US armour/infantry cooperation in the second battle for Fallujah (2004) is hailed as a success in this 6-page journal article, which the author suggests should inform British combined arms TTPs and doctrine.** The paper offers a quick overview of combined deployment and manoeuvre in Fallujah, using examples from the field and relating observations to the British experience. The paper concludes that success stems from confronting the enemy with a tactical dilemma by leveraging the complementary capabilities of these two arms. The vignettes and diagrams within this short piece may be useful to combined arms training staff.

Keywords: combined-arms tactics, infantry tactics, armour tactics, afv employment, iraq, fallujah

### **Russian-Manufactured Armored Vehicle Vulnerability in Urban Combat: The Chechen Experience**

Grau, Russian-Manufactured Armored Vehicle Vulnerability in Urban Combat: The Chechen Experience, Red Thrust Star, 1997.

Click [here](#) for the complete article

**This 6-page journal article reports on Russian analysis of armour losses in the first month of the Chechen conflict - 225 armoured vehicles including 62 tanks - and elucidates the anti-armour techniques Chechen forces have developed.** Writing for the US Army, the author includes analysis diagrams highlighting the most vulnerable areas identified on specific vehicles, and notes that Chechen techniques - multiple, small, mobile anti-tank teams pinning infantry down with MG and sniper fire while employing RPGs against the sides, rear, and top of vehicles - can be adopted by any force seeking to engage armour in the urban environment. This paper is instructional in battle-proven tactics to counter an urban force which is over-reliant on armour; these observations are likely to remain relevant even with the continued progression of anti-armour weapons and improved vehicle designs.

Keywords: concepts, tactical, armour tactics, afv, apc, ifv, rpg, chechnya, grozny

## FUEL-AIR EXPLOSIVES AND FLAME

### **A 'Crushing' Victory: Fuel-Air Explosives and Grozny 2000**

Grau & Smith, A 'Crushing' Victory: Fuel-Air Explosive and Grozny 2000, *Marine Corps Gazette*, 2000.

Click [here](#) for the complete article

**This 7-page journal article identifies the increased use of thermobaric weapons on the Grozny 2000 battlefield, and describes the effect and deployment of two of such weapons used by the Russian military - the RPO-A Schmel shoulder-fired 'flamethrower', and the crewed multi-barrel rocket launcher the Buratino TOS-1.** Writing for a US military audience, the authors begin with a general discussion of Fuel-Air/Thermobaric weaponry – what it is, its effect, and how it is deployed - before examining in detail these two most commonly used of the Russian arsenal. The paper then discusses the implications of this technology for medical units. The authors suggest that the Russian use of this technology in Afghanistan and Chechnya has 'taken the wraps off' this type of weaponry for use on the future battlefield.

Keywords: ebt projectiles, bombardment, incendiary, rocket launcher, chechnya, russia, grozny, medical support

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## TECHNOLOGIES, WEAPONS AND COMMUNICATIONS

### **Underkill: Scalable Capabilities for Military Operations Amid Populations**

Gompert et al, Underkill: Scalable Capabilities for Military Operations Amid Populations, *RAND*, 2019.

Click [here](#) for the complete article

**The requirement for a non-lethal capacity to provide US forces with a continuum of force is established in this 169-page research paper, which identifies requirements and makes recommendations for the implementation of promising technology.** Writing for the US military, the authors scrutinise a range of scenarios to highlight capability gaps, and against them evaluate current and emerging technologies. The paper defines the most promising options for small units - targeted light and sound tech which is scalable in intensity - and establishes that effective employment will require a combination of tech, training, and decision-making methodology, putting a premium on junior leader selection and training. The paper proposes a concept of operation for the continuum of force, and explores the implications for organisational implementation and integration. This is a well-structured, plain-language paper that 'examines options for filling the void between lethal action and inaction'.

Keywords: policy, strategy, tactical, civil-military, non-lethal

### **Combatant or Collateral Damage? New Technology Offers Urban Ops Advantage**

Lagasca et al, Combatant or Collateral Damage? New Technology Offers Urban Ops Advantage, *Army Magazine*, 2015.

Click [here](#) for the complete article

**This 3-page article for the US Army Magazine reports on the development and applications of solid state active denial technology ( a transmission of specific frequency radar waves to stimulate nerve endings in the skin's external layers giving an unpleasant heat sensation).**

The article describes the evolution of the technology and considers the advantages it can offer in the urban environment - crowd control and dispersal, convoy and checkpoint protection, deterring and degrading suspicious behaviour, and perimeter and installations security. The authors are enthusiastic about this alternative to lethal force in urban operations, and note that the technology may soon be an active option for forces in the field.

Keywords: tactical, cimic, perimeter defence, irritants

### **Task Force Ranger: A Case Study Examining the Application of Advanced Technologies in Modern Urban Warfare**

Akers & Singleton, Task Force Ranger: A Case Study Examining the Application of Advanced Technologies in Modern Urban Warfare, *National Security Program Office*, 2000.

Click [here](#) for the complete article

**This 42-page report reviews the October 3, 1993 firefight in Mogadishu from a technology perspective, using the case study to suggest applications for emerging technologies in future urban operations.** Writing for the US Department of Energy, the author provides a general discussion of TF Ranger, its organisation and purpose, before analysing how different technologies were used - or not used - to effect. The paper then makes specific recommendations for development and acquisition across a range of areas including: Intel; C3; weapons; non-lethals; psyops; and a suite of force protection initiatives concerning armour, IF and sniper locating, unmanned/robotic vehicles, obscurants, RPG

counter-measures, barriers and area denial, and compact power sources. The author contends that the US must continue to exploit tech to maintain an overmatch for its warriors, and this requires a responsive planning/development/acquisition cycle which involves operational personnel and focusses on enhancing combat power rather than just producing equipment.

Keywords: somalia, mogadishu

### **Emerging Technologies and Military Operations in Urban Terrain**

Yonas & Moy, Emerging Technologies and Military Operations in Urban Terrain, *Soldiers in Cities: Military operations on Urban Terrain*, SSI, 2001.

Click [here](#) for the complete article

**This 7-page conference paper advertises tech solutions for urban operations, identifying three primary areas of contribution - precision information, smart robots, and non-lethals.**

Presenting to the US military, the authors very lightly elaborate on these themes, drawing attention to emerging products. It presents as marketing material.

Keywords: intelligence support, ugv, uav, non-lethals

### **Robo-War Dreams: Global South Urbanisation and the US Military's 'Revolution in Military Affairs'**

Graham, Robo-War Dreams: Global South Urbanisation and the US Military's 'Revolution in Military Affairs', *Crisis States Research Centre*, 2007.

Click [here](#) for the complete article

**The development of western military discourse toward confronting urban spaces is scrutinised in this 27-page working paper, and US/Israeli implementation of robotised and automated urban warfare in Iraq and Israel/Palestine is examined.** Writing for the London School of Economics fragile state research program, the author describes how planners have imagined and constructed cities as the predominant 21st century battlespace which frustrates western high-tech advantage in surveillance and targeting. The paper explores how this paradigm drives 'deeply technophilic' searches for solutions, manifested in the technology employed in Iraq and Palestine. Graham is an influential non-military commentator who offers fresh insights, and this paper further develops concepts from his 2006 *Interrupting the Algorithmic Gaze? Urban Warfare and US Military Technology*, available elsewhere in this bibliography.

Keywords: strategy, intelligence support, ugv, uav

### **Urban Close Air Support and Non-Lethality**

Fox, Urban Close Air Support and Non-Lethality, *Naval War College*, 2002.

Click [here](#) for the complete article

**The urban capability offered by CAS delivered non-lethal weapons (NLW) is explored in this 31-page US staff college monograph, which argues the combination would minimise non-combatant casualties/collateral damage while enhancing the effectiveness of ground forces.**

The paper reflects upon Russian disaster in Chechnya to highlight opportunities for this pairing at the operational level, and reviews current joint US CAS and NLW doctrine and training. The author finds that while MOUT has received recent doctrinal attention, NLW development has languished and requires a commitment to integrate its development and effects into doctrine, training and planning. Including an appendix explaining NLW terms and concepts, this is a general conversation starter and a call for firepower options offering graduated response capability across the full spectrum of operations.

Keywords: doctrine, tactical, combined-arms tactics, non-lethal, chechnya, grozny

## COMMUNICATIONS AND SENSING

### Rapid Mapping for Precision Targeting

Rutgersson et al, Rapid Mapping for Precision Targeting, *Swedish National Defence College*, 2011.

Click [here](#) for the complete article

**This 11-page research report for the Swedish military identifies targeting problems for precision artillery munitions in the urban environment, and recommends current systems be enhanced with information from rapid 3D mapping.** The paper describes the current FOI (forward observation instrument) system, and through experiments demonstrates the benefits of linking it with GIS (global information system) enabled mapping technology. Benefits include superior target verification and ability to adjust coordinates, improved situational awareness of the target environment, and a clear presentation of the risk area. The paper frames these improves as particularly important in complying with IHL responsibilities.

Keywords: tactical, targeting, artillery employment

### Rapid Mapping of the 3D Urban Environment

Mason, Rapid Mapping of the 3D Urban Environment, *Defence Science and Technology Laboratory*, 2002.

Click [here](#) for the complete article

**This 4-page summary details a research project to define the 3D mapping requirements of the UK armed forces, and to ascertain gaps in capability and possible acquisition solutions.** The project surveyed current users and suppliers of 3D mapping data and reviewed the available software tools. Uses identified included pre-mapping of high-risk homeland areas, mission rehearsals and planning, and potential utility in blast-mapping. The report flags further study is needed to understand the specific requirements of different uses.

Keywords: tactical, intelligence support

### Freeing Mercury's Wings: Improving Tactical Communications in Cities

Edwards, Freeing Mercury's Wings: Improving Tactical Communications in Cities, *RAND*, 2001.

Click [here](#) for the complete article

**The communications requirements for dismounted infantry in urban combat are considered in this 80-page research paper commissioned by the US Army.** The paper reviews the communications challenges posed by the urban environment, summarises current doctrine, and examines emerging and future communications technology and its applicability to use in cities. The author recommends specific improvements to current field manuals, and cautions there is no magic bullet solution to the myriad challenges - forces will always require robust baseline C2 TTPs that work in the absence of wireless communications. This is a comprehensive overview of the topic which will be of interest to the writer of doctrine, and the trainer.

Keywords: doctrine, tactical, communications

### **Urban Warfare Communication: A Contemporary Russian View**

Grau, Urban Warfare Communication: A Contemporary Russian View, *Red Thrust Star*, 1996.

Click [here](#) for the complete article

**This 9-page paper draws on the Russian experience in Grozny to illustrate the communications challenges inherent to urban operations, and examines practical, in-the-field expedients available to enhance signals effectiveness.** The author draws upon Soviet and Russian military publications to source an urban 'best practice' for the siting and use of communications hardware, focussing primarily on radio communications and wire communications. Writing for a US military audience, Grau concludes with a commentary on the sourced material. The hands-on nature of the material - including practical illustrations and references to operations in Grozny - makes this paper of particular use for the training environment.

Keywords: doctrine, chechnya, grozny, communications

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## UGV, AUV, AUTONOMY AND AI

### **A Pilotless Army in the Megalopolis**

Wegner, A Pilotless Army in the Megalopolis, *US Army Command and General Staff College*, 2004.

Click [here](#) for the complete article

**This 63-page monograph argues that, while UAV cannot currently supplant attack and recon helicopters, their teaming with manned assets will optimise effectiveness in army aviation support of urban operations.** Writing for the US military the paper reviews the inevitability of urban conflict, summarises current doctrine, and presents case studies to highlight the challenges and lessons learned for aviation in the urban arena - Hue 1968, Panama City 1989, Mogadishu 1993, and Grozny 1994-95. The author describes and analyses the capability of current UAV and manned assets, and rates them against a set of urban-warfare-inclusive criteria. The paper concludes that teaming of assets will maximise utility, and calls for an update of aviation doctrine to include these new capabilities.

Keywords: doctrine, tactical, uav, chechnya, somalia, grozny, hue, mogadishu, panama city

### **RSTA for Small Rovers in Urban Warfare**

Young et al, RSTA for Small Rovers in Urban Warfare, *US Army Research Laboratory*, 1999.

Click [here](#) for the complete article

**The concept for an autonomous rover, able to detect humans and hazards in the urban environment, is explored in this 47-page research paper from the US Army Research laboratory (RSTA: Recon, Surveillance, Target Acquisition).** The paper considers the detection module requirements for such a robot, and proposes a default scenario to frame desired capability. Topics discussed include: an IR detection system, acoustic and speech detection capability, IR imaging, image processing, and moving object recognition. The authors conclude that such an application is feasible and supported by initial analysis and experimentation, and that the trend to tech miniaturisation and increased processing power supports the concept.

Keywords: tactical, intelligence support, ugv

### **Human Effectiveness Issues in Simulated Uninhabited Combat Aerial Vehicles**

Prabhala et al, Human Effectiveness Issues in Simulated Uninhabited Combat Aerial Vehicles, *Proceedings of the 2003 Winter Simulation Conference*, 2003.

Click [here](#) for the complete article (Researchgate article)

**Simulation to support human/system factors during operation of multipleUCAV is described in this 5-page conference paper.** Presenting to an academic audience, the authors provide a handy review of the literature regarding human factors when controlling automated systems, and present their simulation - a mission to suppress enemy air defences - to illustrate how they address these issues. This is a readable treatise which is accessible to the non-specialist.

Keywords: uav, psychology

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## TRAINING, SIMULATION

### **Ruining Copehill Downs**

King, Ruining Copehill Downs, *British Army Review Special Report-Urban Operations-Volume 2 Winter 2019*, 2018.

Click [here](#) for the complete article, via British Army Review special report

**Practical suggestions to transform the urban training facility at Copehill Downs from an ‘embarrassment’ into one of Europe’s premier facilities are offered in this 5-page article for the British Army. The author identifies the need for a dedicated, brigade size training facility for the British Army**, but in the interim proposes innovations to maximise the utility of existing sites: the introduction of rubble, the addition of shipping containers to increase density, and inexpensive suggestions for tunnel systems. The paper concludes that though ugly, the increased realism will offer real training advantages.

Keywords: tactical, training

### **Urban Operations Package: Applying Strategic Discussion at the Tactical Level**

Urban Operations Package: Applying Strategic Discussion at the Tactical Level, Durrant, *British Army Review Special Report-Urban Operations-Volume 2 Winter 2019*, 2016.

Click [here](#) for the complete article, via British Army Review special report

**A junior officer reflects on his battalion’s self-generated urban training package, and offers tactical level lessons learned from the experience in this 9-page journal article.** Writing for the British Army, the author details the conceptualisation and format of the training package conceived by the 2nd Battalion the Royal Anglian Regiment to address perceived shortfalls in urban preparedness. The piece recounts: the format of dry training; the utilisation of the TES (tactical effect simulator) system; urban insights from using FIST (Future Infantry Soldier Technology) devices - night vision, thermal, targeting, and periscope; and the added cognitive load of shoot-through and ricochet considerations in live fire training. Key takeaways include fighting light, deception and distraction to enhance building clearance, and opportunities for creative tasking at small group level.

Keywords: tactical, infantry tactics, cqb, training

### **Planning for the Proven Inevitable: An Urban Operations Training Strategy for America’s Joint Force**

Glenn et al, Planning for the Proven Inevitable: An Urban Operations Training Strategy for America’s Joint Force, *RAND*, 2006.

Click [here](#) for the complete article

**This research paper commissioned by US Joint Forces Command presents a training strategy for the period 2005-2011, focussing on joint ranges and simulation capability and including locations and costings of facilities.** The 426-page paper (247-page plus appendices) distils the requirements for joint urban training, reviews current capability, and plans to cover identified shortfalls. The authors argue that operations without an urban component have become a rarity and that training should reflect this, and raise additional considerations such as the importance of training as an inter-agency force, the imperative to incorporate lessons from the field into programs, and the debatable relevance of live-firing to effective training. This is a comprehensive, detailed, and specific proposal of interest for its methodology and general considerations of joint urban training requirements.

Keywords: doctrine, operations, operational-level

### **Modelling Urban Warfare: Joint Semi-Automated Forces in Urban Resolve**

Anastasiou, Modelling Urban Warfare: Joint Semi-Automated Forces in Urban Resolve, *USAF Institute of Technology*, 2006.

Click [here](#) for the complete article

**This 69-page thesis searches for previously unidentified trends amongst the data generated by Urban Resolve - a large scale, virtual simulation of ISR in urban combat overseen by US Joint Forces Command.** Written for a US military audience, the paper begins with a literature review relevant to combat modelling and virtual simulations, and proceeds to describe the experimental architecture of Urban Resolve. The author presents the data, and identifies areas for further study – namely unexplained variations in time taken to identify differing enemy target groups (ie. armed civilian v mechanized force), and divergence in timings across different trials.

Keywords: operations, intelligence support, information operations, modelling

### **MOU: Fort Sill Expands Urban Operations Training**

O'Berry, MOU: Fort Sill Expands Urban Operations Training, *Field Artillery*, 2006.

Click [here](#) for the complete article

**This 5-page US army article presents a round-up of the expansion and transformation of urban facilities and programmes at the Fort Sill training range.** The paper details the separate facilities on the site, briefly covers courses available, and is accompanied by photographs of the facility/training. Fort Sill offers live and blank fire training for up to platoon sized elements.

Keywords: tactical, infantry tactics

### **It Takes a Village to Prepare for Urban Combat...and Fort Knox is Getting One**

Cameron, It Takes a Village to Prepare for Urban Combat...and Fort Knox is Getting One, *Armor*, 1997.

Click [here](#) for the complete article

**This 4-page article for the US Armour Corps Journal describes the under-construction Mounted Urban Combat Training Site at Fort Knox.** The paper states the need for a dedicated armoured training centre, and introduces the facilities, training weaponry and effects, and potential of the developing site. The author considers such a site essential for the development of mounted force doctrine and materiel.

Keywords: tactical, combined-arms tactics, armour tactics

### **Urban Operations Training at the Power Projection Platform: Welcome to Al Wadi**

McClellan & Noe, Urban Operations Training at the Power Projection Platform: Welcome to Al Wadi, *Engineer*, 2005.

Click [here](#) for the complete article

**This 4-page article details the modifications and innovations made at the Fort Bliss training facility (US) to create a challenging urban environment for battalion level training.** Written for the US engineering corps magazine, the paper describes the existing facilities, how these were adapted, additional construction, planning and risk assessment, and the scenarios employed in training. The authors identify the need for a dedicated, large scale training facility to enhance urban operations preparedness.

Keywords: tactical, infantry tactics, civil-military

### **Aviation Urban Operations: Are We Training Like We Fight?**

Kemper, Aviation Urban Operations: Are We Training Like We Fight?, *Air War College*, 2004.

Click [here](#) for the complete article

**This 49-page monograph identifies significant operational risk in the failure to fully integrate fixed wing CAS doctrine into training syllabi, and in the paucity of dedicated training ranges.** Writing for the US military, the author highlights the critical nature of target identification in the urban environment, and examines recent operations to illustrate the complexity of urban aviation operations - Yugoslavia 1999, Afghanistan 2001, and the ongoing operation in Iraq. The paper reviews current service and joint training and makes a range of recommendations for improvement. A well-argued critique of shortcomings in translating doctrine into practice, this paper may be of interest to the combat air stream, intelligence staff, strategic and operational staff and doctrine authors.

Keywords: doctrine, tactical, combined-arms tactics, direct fs, cas, afghanistan, yugoslavia, iraq, aviation

### **The 5 Must-Have Qualities of a Tactical Leader in Urban Warfare**

Finabel, The 5 Must-Have Qualities of a Tactical Leader in Urban Warfare, 2017.

Click [here](#) for the complete article

**This 8-page discussion paper from a European military interoperability think-tank seeks to identify the fundamental qualities of effective junior leadership in urban combat.** The paper suggests five qualities/skills for success - preparation, risk assessment, adaptability, communication, and focus - and argues their relevance as selection criteria and training requirements. This is a general conversation-starter which makes some obvious points, but does offer a structure and starting point for further discussion which may be of interest to the tactical trainer.

Keywords: tactical, leadership

### **A Study of Simulation Effectiveness in Modelling Heavy Combined Arms Combat in Urban Environments**

Jacquet, A Study of Simulation Effectiveness in Modelling Heavy Combined Arms Combat in Urban Environments, *US Army Command and General Staff College*, 2007.

Click [here](#) for the complete article

**Current simulations for urban combat training are analysed in this 67-page monograph, which concludes that there is no effective product for realistic infantry/tank combined arms action.** The US staff college paper reviews current simulations against standard requirements, with the results presented in tabular format. General lessons and observations from the battles of Aachen, Manila, Hue and Lebanon are collated to generate additional requirements, including provision for: defensive spider-holing, ballistic breaching of walls and ceilings and smoke obfuscation from burning buildings.

Keywords: tactical, combined-arms tactics, infantry tactics, armour tactics

### **Ignoring the Innocent: Non-Combatants in Urban Operations and in Military Models and Simulations**

Wong, Ignoring the Innocent: Non-Combatants in Urban Operations and in Military Models and Simulations, *RAND*, 2006.

Click [here](#) for the complete article

**This 215-page doctoral dissertation examines recent urban operations to understand the range of non-combatant behaviours which can affect missions, and develops a layered application of agent based modelling (ABM) to apply these insights to military simulations.** Writing from a US military perspective, the author establishes the inadequacy of current representations of non-combatants, and considers a range of models before proposing ABM as the most suitable. Panama 1989, Somalia 1993, and Iraq 2003/4 are analysed for civilian-behaviours which affected US military activity - commuting, congregating, running away, sheltering, ignoring, running toward combat, looting, as involuntary and voluntary human shields, attacking US forces, and swarming. The paper then applies these insights to simulations, working from basic size/density/demographic considerations through simple and complex behaviour attribution. While primarily directed at the military modelling community, this paper presents an interesting, plain-language analysis of non-combatant behaviours which will be of interest to the planner and trainer.

Keywords: civil-military, ihl, humanitarian, iraq, somalia, panama, mogadishu

### **Urban Battlespace Control: A New Concept for Battle Command**

O'May et al, *Urban Battlespace Control: A New Concept for Battle Command*, US Army Research Laboratory, 2015.

Click [here](#) for the complete article

**This 32-page research report describes efforts to enhance the BTO system (Battlespace Terrain Ownership) to encompass the considerations and complications of populated urban terrain.**

The BTO system - a visualisation of the degree of enemy territorial control - is described, and the challenges explored: defining territorial 'ownership' in the urban space, representing infrastructure influence, line-of-sight complexity, and the effect of civilian population. Insights are garnered from interviews with subject matter experts who highlight the centrality of population and infrastructure to urban operations, and suggest that dismounted infantry have a comparatively greater impact in urban terrain.

Keywords: operations, tactical

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## NATIONAL APPROACHES AND DOCTRINE

### CANADA

#### **A Requirement for Increased Emphasis in Urban Operations Within the Canadian Army**

Mcllroy, A Requirement for an Increased Emphasis in Urban Operations Within the Canadian Army, *Canadian Forces College*, 2004.

Click [here](#) for the complete article

**This 85-page monograph pulls no punches evaluating the capability of the Canadian army for the challenges of urban operations, and concludes that the force is not sufficiently focussed or prepared for the task.** This Canadian staff college paper examines the historical development of the Canadian approach to urban operations, and reviews world urbanisation trends and Canadian foreign policy to affirm the likelihood of urban deployment. The physical and political requirements of the urban battlefield are then detailed, and post-cold war developments in urban capability are examined within the US, UK, NATO, and Canadian forces. The author finds that while others are adapting to the new reality, Canada has remained virtually stationary since the end of the cold war. The paper concludes with a call for a primary focus on urban operations, the development of an over-arching operational concept, and transformation of army doctrine, equipment, and training to this end. This is an accessible insight into the deliberations and evolution of one of our coalition partners.

Keywords: policy, doctrine

#### **An Urban Operations Training Capability for the Canadian Army**

Burton, An Urban Operations Training Capability for the Canadian Army, *Canadian Forces College*, 2005.

Click [here](#) for the complete article

**This 87-page Canadian staff college paper makes the case for investment in a centrally standardised and funded urban operations training facility to boost army capability.** The paper establishes the relevance of the topic with reference to recent Canadian deployments, and tracks the growing institutional awareness of training deficiencies. The requirements for such a facility are determined through discussion of recent operations and the experience and training capability of allies. Technology which may contribute to the facility is reviewed, and the paper concludes by urging a commitment to a capital project along the lines suggested. This is a very readable treatment of the topic.

Keywords: concepts, doctrine, tactical

### UNITED STATES OF AMERICA

#### **The United States Army and Large Cities Prior to the Global War on Terror**

Fuller, The United States Army and Large Cities Prior to the Global War on Terror, *US Army Command and General Staff College*, 2013.

Click [here](#) for the complete article

**The absence of doctrine addressing operations in large cities is considered in this 73-page US staff college paper, and large-city operations from WW2 until 2001 are examined to identify their special properties and challenges.** The paper begins with a discussion of efforts and models

to categorise cities, before discussing the cases - Manila 1944, Berlin and Tokyo 1945, Korea 1950, Saigon 1968, and Panama City 1989 - and the doctrinal support available to these operations. The author demonstrates the lack of guidance for urban operations, and argues that the inability to integrate lessons learned from previous operations is an obstacle to improvement. This paper is notable for its comparison of doctrinal/military discourse regarding cities with alternative, more empathetic frameworks.

Keywords: doctrine, operations, germany, philippines, vietnam, berlin, manila, tokyo, korea, saigon, panama

### **Understanding the Situation in the Urban Environment**

Glaze, Understanding the Situation in the Urban Environment, *US Army Command and General Staff College*, 2000.

Click [here](#) for the complete article

**This 58-page US staff college monograph examines the US Land Warrior and MOUT Advanced Concept Technology Demonstration programs to determine if they equip the urban soldier to make optimal decisions in this complex environment.** The paper examines how doctrine approaches the decision-making process and whether it incorporates the key elements of decision-making theory, before analysing the two experimental programs and their contribution to situational understanding on the urban battlefield. The author concludes the programs are incomplete - providing tech-enhanced situational awareness but failing to incorporate analysis and judgement into the process - and argues that the essential quality for optimal decision-making is experience, and this is best gained through training. This is a well-structured paper and despite the now dated programs referenced may be of interest to the writer of doctrine for its contrast of decision-making doctrine and theory.

Keywords: doctrine

### **Military Operations on Urban Terrain (MOUT), the Key to Training Combat Forces for the Twenty-First Century**

Hamlet, Military Operations on Urban Terrain (MOUT), the Key to Training Combat Forces for the Twenty-First Century, *US Army Command and General Staff College*, 1998.

Click [here](#) for the complete article

**This 59-page staff college thesis for the US Army investigates the duplication of tasks in high intensity combat and peace keeping, and argues that MOUT training is the unique environment to train infantry simultaneously for these operations.** The author explores the doctrinal distinctions and commonalities of HIC/MOUT/MOOTW, and identifies the frequency of each such mission in US deployments. The paper then compares unit generated HIC task lists to the requirements of MOOTW, concluding that most tasks are redundant. The paper makes the case for efficiencies in combining both under the MOUT umbrella and recommends doctrinal changes to that effect, while noting the utility of the peace-keeping skill-set to soldiers engaged in combat under restrictive ROE. This is a well-developed proposal which will be of interest to the planner and writer of doctrine.

Keywords: doctrine

### **Avenues Embattled: Urban Operations in Low Intensity Conflict**

Rosenwald, Avenues Embattled: Urban Operations in Low Intensity Conflict, *US Army Command and General Staff College*, 1990.

Click [here](#) for the complete article

**This 57-page monograph critiques US army doctrine for urban operations in low intensity conflict by comparing it with British Army experiences and doctrine.** Writing for the US army the

author articulates the current threat profile with reference to urban insurgency theory and a review of current doctrine. Next the US and British experience of this type of operations is examined, and the development of their respective doctrine illustrated with examples of evolving TTPs. The paper argues that near-continuous operations have honed a cohesive, unified British doctrine, but US doctrine remains disjointed and requires re-writing into a recognisable framework. This is a persuasive paper focussing on a less-visited topic, and will be of interest to the writer of doctrine.

Keywords: doctrine, operations, cimic

### **MOUT is Not Moot**

Schiedemantel, MOUT is Not Moot, *US Army Command and General Staff College*, 1998.

Click [here](#) for the complete article

**This 53-page monograph examines US army MOUT initiatives in doctrine, training, and technology, and evaluates their progress and contribution toward preparedness.** This staff college paper begins by explaining the formation of the 1994 Defence Science Board, tasked with recommending improvements to enhance US MOUT capability following the disastrous unfolding of operations in Mogadishu 1993. The author then uses case studies - Panama City 1989, Mogadishu 1993, and Grozny 1994 - to contextualise the initiatives required of the army, and examines progress to date. The author finds that while technological initiatives are on track to deliver enhanced equipment for the army, doctrinal and training improvements have not been developed with the same resolve and will not maximise potential.

Keywords: doctrine, chechnya, somalia, grozny, mogadishu, panama city

### **Regionally Aligned Forces and Megacities**

Thomason, Regionally Aligned Forces and Megacities, *US Army Command and General Staff College*, 2015.

Click [here](#) for the complete article

**This 61-page monograph for the US military contends the Regionally Aligned Force model cannot develop the expertise to achieve strategic objectives in megacities, and presents case studies – Lagos, Karachi, Cairo – to demonstrate the scale and complexity of the challenges involved.** The paper reviews doctrinal approach to megacities, and summarise the history and intent of the RAF concept. The case studies are contextualised using the strategic appreciation model and city as a system model, and conclusions are drawn demonstrating the unsuitability of the RAF concept to generate comprehensive information about megacity environments. The author proposes that gaps in the professional knowledge of megacities will be better filled by officer education and exchange programs. This paper illustrates theory with relevant case studies, and will be of interest to the writer of doctrine.

Keywords: doctrine, operational-level, cimic

### **Siege to Surgical: the Evolution of Urban Combat from WW2 to the Present and its Effects on Current Doctrine**

James, From Siege to Surgical: the Evolution of Urban Combat from WW2 to the Present and its Effects on Current Doctrine, *US Command and General Staff College*, 1998.

Click [here](#) for the complete article

**Using a range of case studies to highlight the imperatives of urban combat, this 132-page staff college paper argues that while urban doctrine has developed over time, it is currently in need of updating.** The paper begins with an overview of 6 cases - Aachen, Manilla, Seoul, Hue, Panama, and Mogadishu - and from these draws operational lessons which are compared to current US doctrine. The author finds

that combined arms effectiveness and requirements for high intensity, precision operations have become enshrined in doctrine, but notes that two decades without an update has left doctrine lagging behind practice. This paper offers concise, informative case studies, and will be of interest to the trainer and the writer of doctrine.

Keywords: doctrine, operations, tactical, combined-arms tactics, germany, philippines, vietnam, aachen, hue, manilla, seoul, panama, mogadishu

### **Building a Better Trojan Horse: Emerging Army Roles in Joint Urban Operations**

Beckert, Building a Better Trojan Horse: Emerging Army Roles in Joint Urban Operations, *US Army Command and General Staff College*, 2001.

Click [here](#) for the complete article

**In this 55 staff college monograph the author explores developing US joint urban operations doctrine from an Army perspective.** The paper begins with a roundup of theory and commentary relevant to the topic, and then examines current US service doctrines. Next a history and review of the emerging joint operations doctrine is conducted, and the author identifies a developing emphasis for army on the 'strategic descent', a future coup de main capability available to the joint force commander to establish preliminary control over an urban area. This is a focussed paper and will be useful to those interested in operational doctrine.

Keywords: doctrine, operations, combined-arms tactics

### **In Order to Win, Learn How to Fight: The US Army in Urban Operations**

Forbes, In Order to Win, Learn How to Fight: The US Army in Urban Operations, *US Army Command and General Staff College*, 2002.

Click [here](#) for the complete article

**Current preparedness for urban operations is scrutinised in this 87-page US staff college paper, and training across the full spectrum of operations as joint and combined-arms teams is identified as the priority to enhance readiness.** The paper examines the contemporary urban threat - drawing on lessons learned from Mogadishu and Grozny - and proceeds to investigate the status of doctrine, training, and equipment. Using the results of an extensive survey of units, the author concludes that improvements in doctrine are yet to be validated through committed training, and that the shortfall is exacerbated by limited training facilities and lack of effective urban-specific equipment. This is a well-structured paper which unashamedly highlights deficiencies in US preparedness.

Keywords: doctrine, chechnya, somalia, grozny, mogadishu

### **MOUT Doctrine and the Third World Threat in 2005-2010: Will it Work?**

McFarland, MOUT Doctrine and the Third World Threat in 2005-2010: Will it Work?, *US Army Command and General Staff College*, 1998.

Click [here](#) for the complete article

**The suitability of current doctrine to meet emerging threats is examined in this 65-page US staff college monograph, which is primarily concerned with infantry and at the tactical level.**

The paper discusses operations in Mogadishu 1993, and Grozny 1994-96, to highlight shortcomings in doctrine, with the author identifying a need for greater guidance regarding fighting dispersed and as combined/joint teams.

Keywords: doctrine, infantry tactics, chechnya, somalia, grozny, mogadishu

### **Future Combat in Urban Terrain: Is FM90-10 Still Relevant?**

Goligowski, Future Combat in Urban Terrain: Is FM90-10 Still Relevant?, *US Army Command and General Staff College*, 1994.

Click [here](#) for the complete article

**This 59-page monograph analyses current doctrine against recent cases to identify major shortfalls in supporting operations against light, indigenous forces in the urban environment.** Writing for the US Army, the author reviews the evolution of MOUT doctrine and present the cases - Dominican Republic 1965-66, Hue 1968, and Belfast 1969-85 - to test the applicability of doctrine to the contemporary battlefield and to peacekeeping/peacemaking operations. The analysis makes specific suggestions for doctrinal improvement, illustrated by reference to the cases. This is a strong paper which retains relevance despite its critique being directed to superseded doctrine, and will be of interest to the trainer and writer of doctrine.

Keywords: doctrine, operations, tactical, civil-military, vietnam, hue, dominican republic, belfast

### **Survey of Current Doctrine, Training, and Special Considerations for Military Operations on Urbanized Terrain (MOUT)**

Reiss et al, Survey of Current Doctrine, Training, and Special Considerations for Military Operations on Urbanized Terrain (MOUT), *US Army Research Institute for the Behavioural and Social Sciences*, 1983.

Click [here](#) for the complete article

**This research report for the US Army Infantry Centre provides a comprehensive overview of current training and doctrine, and identifies ways forward to improve capability for urban combat.** Drawing on extensive questionnaire and observational research, the paper reviews existing doctrine and examines infantry training for MOUT, utilising comparison with allied forces to highlight shortfalls. The paper then offers recommendations for training development, and suggested areas for further research including: doctrinal review; the role of snipers; ascertaining the weapons required; evaluating the equipment needs of the individual soldier; simulation as a cost-effective training aid; focus on terrain and task analysis for MOUT; and the optimal scale for urban mapping. This is a moment-in-time snapshot of US infantry preparation, yet with analysis that remains relevant.

Keywords: doctrine, tactical, infantry tactics

### **Current MOUT Doctrine and its Adequacy for Today's Army**

Nethery, Current MOUT Doctrine and its Adequacy for Today's Army, *US Army Command and General Staff College*, 1997.

Click [here](#) for the complete article

**The inadequacy of doctrine for contemporary urban operations is demonstrated in this 78-page thesis, which recommends updates to encompass modern missions, threats, terrain, and technology.**

Writing for the US Army, the author traces the evolution of doctrine since WW2 and evaluates its ability to equip the contemporary commander to conduct missions/evaluate threat/analyse terrain/use tech. This model is also applied to vignettes of Grozny 1994 and Mogadishu 1993 to highlight the evolving urban battlefield. This is an interestingly structured analysis with a focus on the 'usability' of doctrine.

Keywords: concepts, doctrine, operations, chechnya, somalia, grozny, mogadishu

## SWEDEN

### **Swedish European Union Battlegroups in Urban Operations**

Hansen, Swedish European Union Battlegroups in Urban Operations, *US Army Command and General Staff College*, 2005.

Click [here](#) for the complete article

**The formation of a Swedish-led European Union rapid-reaction battlegroup is discussed in this 99-page staff college thesis, and the capabilities required for offensive urban combat are compared to its suggested organisation to identify shortfalls.** The paper discusses the battlegroup initiative and conducts a literature review of the contemporary operating environment and the nature of future urban operations. Key capabilities are sourced from a NATO 2002 working group paper, and potential organisational requirements are analysed against the proposed battlegroup structure. The author identifies gaps in air-ground support - suggesting a rotary wing aviation fix - and a need to enhance HUMINT collection/assessment capability and access to PSYOPS assets. The NATO document used as a framework for this analysis is included in this bibliography Urban operations in the year 2020.

Keywords: operations, operational

## AUSTRALIA

### **The Australian Army in the Urban, Networked Littoral**

Kilcullen, The Australian Army in the Urban, Networked Littoral, Directorate of Future Land Warfare Australia, 2014.

Click [here](#) for the complete article

This 40 page research paper considers the urban networked littoral and proposes how control operations might be conducted there. It analyses the urban environment, focusing on the city as a system. While outlining such physical aspects as the subterranean and the supersurface (rooftops) it emphasises accelerating informational change wrought by increasing system connectivity. The difficulties of projecting and sustaining forces are dissected before proposing a control operations approach that focuses on the dynamic flows of population, resources and information, with key nodes being especially important. This is a concise version of many of David Kilcullen's proposals for urban operations and offers both a high-level view as well as concrete capability implications.

Keywords: concepts, networks, control operations, electronic connectivity, littoralisation

### **Urban Operations: Oversight and Opportunity**

Knight, Urban Operations: Oversight and Opportunity, *Australian Army Journal*, 1999.

Click [here](#) for the complete article

This 10-page military journal article from a serving Australian officer calls for an institutional response to the looming challenge of urban operations and outlines immediate considerations for action at the tactical level. The paper outlines the case for a focus on UO - dismissing the notion that there is a 'choice' available to Western forces - and briefly summarises the divergent demands of the urban theatre. Next the author identifies immediate discussion points for infantry, coms, armour, tech and equipment procurement, reserve forces, and fire support and obscuration capabilities, urging a sense of urgency as 'we are a tiny army learning to play a manpower intensive game.' This is a concise paper which summarises a point in time and concludes with a call for immediate training initiatives to disseminate doctrine and techniques to move toward a minimum urban operations capability.

Keywords: tactical, infantry tactics, armour tactics, artillery employment, engineer employment

## NEW ZEALAND

### **The MOUTing Challenge: And the New Zealand Army's need to Prepare**

Dorn, The MOUTing Challenge: And the New Zealand Army's need to Prepare, *Australian Army Journal*, 2007.

Click [here](#) for the complete article

**This 13-page military journal article provides a general overview of the tactical-level challenges and requirements of contemporary urban operations and makes specific recommendations concerning the preparedness of the NZ Army.** The author reviews the importance and inevitability of urban operations, then explores concepts of firepower, non-lethals, airpower, combat service support vulnerabilities, HUMINT, and the complexity of the physical and human terrain. The paper concludes with recommendations for NZ to further develop aerial surveillance capability, force protection and survivability, and non-lethal and precision weapons tailored to the urban environment. This is a concise overview illustrated with examples from contemporary operations, which may prove useful to the trainer.

Keywords: operations, tactical, intelligence support, uav, ifvs

## RUSSIA

### **New Generation Urban Battlespace: The Development of Russian Military Thinking and Capabilities in Urban Warfare Since the Cold War 1991-2019**

Khan, New Generation Urban Battlespace: The Development of Russian Military Thinking and Capabilities in Urban Warfare Since the Cold War 1991-2019, *Masters Thesis*, 2019.

Click [here](#) for the complete article

**This 129-page thesis examines the post-Cold War development of Russian urban combat doctrine - and the associated force and training developments - in order to surmise current Russian capability.** The author examines recent adjustments in Russian thinking and associated reforms in; organisation, training, force structure and fighting methodology, weapons and equipment, and electronic warfare and cyber-ops. The paper reflects on Russian lessons learned from the battles for Grozny (1994,2000) and draws evidence from the conduct of operations in Georgia, the Ukraine, and Syria. The author argues that the Russian military has a demonstrated ability to learn and can now deploy a formidable expeditionary force for urban operations. He paints a picture of an increasingly professionalised military which integrates covert and hybrid forces, conducts aggressive cyber warfare in support of conventional operations, continues to adjust tactics and invest in new technology, and is willing to deploy massed artillery with few ROE and collateral damage constraints. This is an up-to-the-minute analysis, and will be of particular interest to the writer of doctrine and the operational planner.

Keywords: strategy, doctrine, operations, information operations, ugv, uav, chechnya, russia, syria, ukraine, grozny

### **Commonalities in Russian Military Operations in Urban Environments**

Smith, Commonalities in Russian Military Operations in Urban Environments, *US Army Command and General Staff College*, 2003.

Click [here](#) for the complete article

**In a 64-page Thesis, Smith draws comparisons between the Soviet defence of Stalingrad (WW2) and Russian offensive operations in Grozny (1994-96), and suggests the Russian military has an ingrained 'culture of mass' - a reliance on massive force, acceptance of massive casualties, and**

**disregard for massive collateral damage.** Writing for a US military audience, the author examines both battles through the lens of these three ‘masses’, and observes that this culture served poorly in the invasion of Chechnya, resulting in strategic failure. Smith argues it is important to understand this mindset should combined operations with Russian forces be considered, or when dealing with former Soviet client states trained on Russian doctrine. Of particular interest as a study of urban operations unconstrained by the values of contemporary western democracies.

Keywords: ww2, grozny, russia, doctrine, strategy, soviet

### **Changing Russian Urban Tactics: The Aftermath of the Battle for Grozny**

Grau, Changing Russian Urban Tactics: The Aftermath of the Battle for Grozny, *INSS Strategic Forum* 38, 1995.

Click [here](#) for the complete article

### **This 5-page journal article draws upon Russian-language sources to examine changes to tactical concepts and procedures following the disastrous initial attempt on Grozny by Russian forces.**

Writing for the US Army Foreign Military Studies Office, the author synthesises reports to examine adaptations in planning, organisation, and TTPs. The paper paints a picture of a switch to a deliberate, high-firepower, combined arms reduction of the city and abandonment of high-tempo mounted thrusts. This is a succinct and near contemporaneous report of Russia’s learning on the job which will be of interest to military commanders.

Keywords: tactical, intelligence support, combined-arms tactics, infantry tactics, armour tactics, artillery employment, chechnya, grozny

### **Soviet Tactical Doctrine for Urban Warfare**

Scharfen & Deane, Soviet Tactical Doctrine for Urban Warfare, *Stanford Research Institute*, 1975.

Click [here](#) for the complete article

### **Drawing on extensive research of open-source literature, the authors surmise 1975 Soviet Urban Operations Doctrine in this 159-page research paper which is focussed on conflict between regular forces.**

Writing for a US military audience, Scharfen and Deane begin with an analysis of the cold-war battlespace, its growing urbanisation, and an overview of Soviet tactical considerations. Next, they examine Soviet urban field training – with specific examples of courses and training ranges – and conclude with detailed doctrine. The authors argue that preparation for urban operations is a Soviet priority, evidenced by the frequency of discussion and the expenditure of resources on training and facilities. A paper notable for its extensive use of Soviet sources, and of particular use to those interested in urban operations doctrine.

Keywords: doctrine, infantry tactics, armour tactics, artillery employment, engineer employment, logistics, planning & recce, russia, signals, aviation, anti-aircraft

### **Fighting in Built Up Areas: A Soviet View Part I**

Vigor, Fighting in Built Up Areas: A Soviet View Part I, *Rusi Journal* 122, 1977.

Available through subscription or library click [here](#) for link

### **Vigor examines the evolution of Soviet urban offensive tactics and describes the culmination of this doctrinal development in the Battle of Berlin.**

In a 10-page paper for the Soviet Studies Centre Sandhurst, Vigor notes the limitations of pre-war doctrine and explains how it was developed ‘on the job’ as the Soviets advanced on Germany. The author then presents an overview of the tactics employed to take Berlin, organised with reference to specific corps and ranging from divisional to squad level. He includes interesting examples of tactical development such as manhandling artillery to the upper floors of buildings and the breaking down of multiple rocker launchers for individual use by infantry as primitive bazookas. Vigor observes

that this doctrine is predicated on a superiority in personnel and material, total air dominance, destruction by artillery and bombing, and a willingness to accept massive casualties. This is an engaging paper using specific examples and case studies to illustrate Soviet urban doctrine current at the end of world war 2.

Keywords: doctrine, tactical, combined-arms tactics, infantry tactics, armour tactics, artillery employment, engineer employment, artillery-direct, russia, berlin

### **Fighting in Built Up Areas: A Soviet View Part II**

Donnelly, Fighting in Built Up Areas: A Soviet View Part II, *Rusi Journal* 122, 1977.

Available through subscription or library click [here](#) for link

**In this 6-page journal article Donnelly envisions a Soviet invasion of Western Europe and considers how its urban areas will be attacked under current Soviet doctrine.** Writing for a military audience the author summarises Soviet doctrine, discusses Soviet expectations of NATO defence, and considers the deployment of nuclear and chemical weapons. Donnelly considers that the overriding priority for speed in such an invasion will see Soviet forces planning to avoid urban areas. He discusses tactics which may be used to deny urban areas to the defending forces, and suggests that when forced to fight in cities the Soviets will quickly move to take them by storm and accept the resultant massive casualties. A general, big-picture overview intended to be read in conjunction with Part 1.

Keywords: doctrine, operations, tactical, combined-arms tactics, engineer employment, bulldozers, russia

### **Russian Combat Methods in WW2**

Russian Combat Methods in WW2, *US Army Historical Study Pamphlet*, 1950.

Click [here](#) for the complete article

**This 115-page military pamphlet synthesises the recollections of German commanders fighting the Russians on the Eastern Front.** Written to prepare US forces for the prospect of Cold War combat against Russia, the pam explores; the qualities of Russian soldiers, their command structure, the tactics employed against German forces in WW2, the capabilities of the Red Airforce, and the nature of Russian partisan warfare. A short chapter (3-page) addresses Fighting in Towns and Villages and is primarily concerned with infantry tactics in defence. This is an interesting, general historical read, which the trainer may find of interest for its observations and anecdotes.

Keywords: tactical, combined-arms tactics, infantry tactics, russia

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## CASES, THEATRES AND BATTLES

### PRE-1918

#### **Attacking the Heart and Guts: Urban Operations Through the Ages**

DiMarco, Robertson & Yates (Eds), *Attacking the Heart and Guts: Urban Operations Through the Ages, Block by Block: The Challenges of Urban Operations, US Army Command and General Staff College, 2003.*

Click [here](#) for the complete article

**This 27-page paper utilises a range of historic examples to give a broad, wide-ranging overview of urban warfare and the battle for cities prior to the 20th Century.** Writing for a US urban operations case study compilation, the author draws what he argues are constant themes through history: the decisive nature of cities; the significant resources required for success; and the additional human and physical challenges and complexities of the urban environment. The paper charts evolving tactics, weaponry, and the specialisation of forces - particularly artillery and engineers - and considers non-warfighting urban operations, primarily in the US. This is an informative, readable introduction to the topic which offers novel examples and insights.

Keywords: operations, tactical, artillery employment, engineer employment, logistics, civil-military

#### **Urban Combat at Olynthos 348 BC**

Lee, *Urban Combat at Olynthos 348 BC, Conference Paper University of Glasgow, 2000.*

Click [here](#) for the complete article

**In this 13-page conference paper the author combines archaeology, written records, and observations drawn from contemporaneous warfare and sources to reconstruct the ancient urban battle for Olynthos.** The paper begins with a description of the Olynthos archaeological site and reviews the literature regarding the conflict between the city and the invading forces of Phillip of Macedon (father of Alexander the Great). Next, the methodology used to ascribe relevance to the hundreds of arrow heads and sling bullets found at the site is explained and a reconstruction of the battle suggested from this evidence. The author conjures images of teams of spearman, archers and slingers clearing the city room-by-room, and argues this site confirms that the ranged weapons of the period could be effectively utilised in confined urban spaces. This is a reader-friendly paper highlighting the long history of urban warfare and will be of particular interest to trainers.

Keywords: operations, tactical, combined-arms tactics

#### **Urban Warfare in the Classical Greek World**

Lee, Hanson Ed., *Urban Warfare in the Classical Greek World, Lee, Makers of Ancient Strategy, 2010: 138-162.*

Click [here](#) for the complete article

**This illuminating military history book contains a 24-page section (pp. 138-162) where the author brings to life urban operations inherent in ancient Greek warfare, and demonstrates that, more than 2000 years on, there are lessons to be drawn for today's forces.** The paper begins with a description of the various types of urban clashes in the period, explains the nature of the ancient city as a battleground, and examines the urban capabilities of ancient combatants. The paper concludes with seemingly universal observations regarding the nature of urban operations. This is a concise overview of the

topic, and contains many visceral examples from operations, rebellions, and civil wars which will be of great use to the trainer, especially in demonstrating that some concepts of urban warfare are unlikely to change.

Keywords: operations, tactical

### **The United States Army and Urban Combat in the Nineteenth Century**

Beall, The United States Army and Urban Combat in the Nineteenth Century, *War In History*, 2009.

Available through subscription. Click [here](#) for abstract and access

**This 33-page journal essay contrasts two urban battles - Monterrey 1846 and Fredericksburg 1862 - and explores the vastly different effectiveness of the two US armies involved.** Writing for a general audience, the author begins by highlighting the absence of any urban combat doctrine or training in this period and uses the case-studies to explore how forces adapt when presented with new and unforeseen environments. The paper describes the unfolding operations, the response of the forces and leaders, and concludes by drawing lessons from the disparate outcomes for these two armies. The author argues that success requires flexible and adaptive troops and commanders, and that experience and the quality of the adversary are decisive factors. This is an engaging read with instructive examples of initiative, creative tactics, artillery and infantry combined assaults, and will be of interest to the trainer.

Keywords: operations, tactical, combined-arms tactics, infantry tactics, monterrey, fredericksburg

### **The Battle of Tanga, German East Africa 1914**

Harvey, The Battle of Tanga, German East Africa 1914, *US Army Command and General Staff College*, 2003.

Click [here](#) for the complete article

**At the African port town of Tanga (1914) an amphibious assault was decisively defeated by lightly armed defenders in house-to-house fighting, despite overwhelming superiority in personnel and firepower. This 107-page staff-college thesis examines the reasons for British failure and German success.** In a highly-readable narrative the author presents the background to the battle and explains the strategic situation. A breakdown of the forces involved follows, with discussion of organisation, training, equipment, and leadership. The battle is recounted, and the paper concludes with an analysis of the outcome, identifying that British prejudice and overconfidence allowed the enemy to achieve superiority in planning, preparation, and reconnaissance. This case offers an excellent illustration of the impact of decisive leadership, and will be of interest to tactical commanders.

Keywords: political, strategy, operations, infantry tactics

### **Urban Warfare in 15th Century Castile**

Gallastegi, Urban Warfare in 15th Century Castile, *Universidad del Pais Vasco*, 2019.

Click [here](#) for the complete article (academia.edu link)

**The tactics of medieval urban combat are analysed in this 20-page research paper, which demonstrates that not much has changed in half a millennium of conflict.** The paper considers the two types of city-fighting prevalent in the era - factional fighting within the city and resistance after an enemy assault breaches the walls - and uses a range of examples to illustrate the methods used in offence and defence. The seizure of key positions, the efficacy of mutually supporting strongpoints, the intentional use of fire, barricading, and mouse-holing emerge as key tactics in this paper which offers a very readable snapshot of street-fighting in the 15th Century.

Keywords: tactical, infantry tactics, incendiarism, mouse holing

## WESTERN EUROPE 1918-1949

### The Battle of Metz

Stephenson et al, *The Battle of Metz, CSI Battlebook, US Army Command and General Staff College*, 1984.

Click [here](#) for the complete article

**This 84-page paper dissects the battle for Metz (1944) and presents it as an excellent example of a corps-sized operation against a well-fortified and defended MOUT objective.** Writing for the US army, the authors review the strategic setting and tactical situation, offering a comprehensive snapshot of the terrain and forces involved. The climactic battle of 8-22 November is described in depth, with the focus at the operational level, and the battle analysed for strategic significance and battlefield lessons. The paper identifies the battle as an exemplar of detailed planning and effective deception operations, and draws lessons confirming the value of bad weather contingencies (artillery covered the absence of air support), the importance of understanding the commander's intent, and training during combat.

Keywords: strategy, statistics, operations, france, germany, metz

### Restraint in Urban Warfare: The Canadian Attack on Groningen, 1945

Noll, *Restraint in Urban Warfare: The Canadian Attack on Groningen, Netherlands, 13-16 April 1945, US Army Command and General Staff College*, 2013.

Click [here](#) for the complete article

**This 90-page staff college thesis revisits the battle of Groningen in 1945, and examines it as an early example of balancing principles of restraint with the accomplishment of the mission.**

The paper begins with a general discussion of the modern dilemma regarding the acceptability of collateral damage, then describes the strategic situation in the Netherlands and the Canadian operation to liberate Groningen from German forces. The author argues that the battle was a precursor of modern urban warfare, and that the reasoning for restraint - and the tactical challenges associated with it - have resonances for today's urban warrior. Of particular interest is the contribution of the flamethrower to Canadian success, in the absence of artillery and air support.

Keywords: political, strategy, operations, tactical, groningen

### The Battle of Aschaffenburg: An Example of Late World War 2 Urban Combat in Europe

Schillare, *The Battle of Aschaffenburg: An Example of Late World War 2 Urban Combat in Europe, US Army Command and General Staff College*, 1989.

Click [here](#) for the complete article

**This 205-page staff-college thesis examines the battle for Aschaffenburg to understand how a scratch-team of German units with no air, artillery, or armour support could so successfully delay the US Army advance into Germany.** Writing for the US Army, the author presents a strategic overview, describes the city and its history, recounts the tactical preparations of the belligerents, and gives a blow-by-blow account of the 10-day battle, focusing at the operational level. The paper concludes that the effectiveness of the defence was due to: the nature of the terrain, which funnelled attacks and negated full employment of US might; operational considerations where initial force structure was not suited to assaulting urban terrain; and the will to win, where 'the Germans came to fight, and the Americans did not.' This is a comprehensive, readable treatment of a lesser-known urban battle.

Keywords: operations, germany, aschaffenburg

### **Aachen 1944: Knocking 'Em All Down on a Politically Unrestrained Battlefield**

McManus, Aachen 1944: Knocking 'Em All Down on a Politically Unrestrained Battlefield, *Grunts: Inside the American Infantry Combat Experience, World War II Through Iraq*, 2010.

Click [here](#) for online version of chapter

**This 23-page Chapter (Chapter 3) paints the picture of the US infantryman on the urban battlefield. The author - academic and US Army historian John McManus - offers a brief overview of the strategic situation before following the riflemen as they go 'plunging into the concrete jungle'.**

This is an exposition which combines direct quotes, vignettes, and author insights to highlight the human dimension, rather than an account of the battle itself, and has been favourably reviewed for its depth of research and engaging writing style. Offering a broad perspective - from streetcars loaded with explosive being rolled downhill toward German positions, to battle refusal, to the trials of toilet paper shortage - this chapter offers content of interest to soldiers of all ranks.

Keywords: tactical, infantry tactics, germany, aachen

### **Assimilating Urban Battle Experience: The Canadians at Ortona**

Gooderson, Assimilating Urban Battle Experience: The Canadians at Ortona, *Canadian Military Journal*, 2008.

Click [here](#) for the complete article

**The tactical lessons learned by the Canadians during the clearance of German forces from the Italian port town of Ortona (December 1943- January 1944) are elucidated in this 10-page journal article.** Writing for a military audience, the author describes the improvised yet comprehensive German preparations and their tactics employed in defence. Canadian TTPs are discussed, including concepts for breaking in and building clearance, and evolving understandings about the nature of urban combat are detailed including: recognition that the urban battle requires detailed and well organised planning and is time-intensive; that direct control is impossible above section level and decision making devolves to small group level; and that reconnaissance is invaluable. This short but rich paper should prove an invaluable resource for the operational and tactical commanders.

Keywords: tactical, combined-arms tactics, infantry tactics, break-in, cqf, mouse holing, building clearing, wall charges, afv employment, artillery-direct, anti-tank guns, piat, italy

### **The Warsaw Uprising of 1944: Why did it Fail?**

Stankiewicz, The Warsaw Uprising of 1944: Why did it Fail?, *City University of New York*, 1996.

Click [here](#) for the complete article

**The failed Polish uprising against the occupying Germans in Warsaw is outlined in this 21-page thesis, which describes the prevailing strategic situation, explains the reasoning for the operation, and considers causes for its failure.**

The essay offers a chronological account of the developing political/strategic situation, and relates the conditions of the city's inhabitants and the nature of the indigenous Armia Krajowa - the Polish Home Army. The author argues that failure was less a result of Russian plotting (as it would have been naïve to rely on their assurances considering their recent actions), and more attributable to an underestimation of German strength, a paucity of weapons and ammunition, and poor tactical focus. This is a concise introduction to the topic, but inconsistencies in tone and format leave it a less than convincing paper.

Keywords: political, strategy, operations, warsaw

### **The Calgary Tanks at Dieppe**

Henry, The Calgary Tanks at Dieppe, *Canadian Military History*, 1995.

Click [here](#) for the complete article

**This 15-page work of military history follows the fortunes of the tank component of the disastrous allied raid on the port of Dieppe, France, 1942.** The paper gives background to the Canadian Calgary Tank Regiment, its training and rehearsals, and its planning for the raid. The assault is detailed, and the author concludes with analysis of the failure of the Regiment to perform as planned. This is a sombre drama which offers vignettes, photographs, and insights - particularly regarding planning failures - which may be useful to tactical commanders and their trainers.

Keywords: operations, tactical, armour tactics, leadership

### **Street Fighting in Germany 1945**

Hope, Street Fighting in Germany 1945, *British Army Review Special Report-Urban Operations-Volume 2 Winter 2019*, 1985.

Click [here](#) for the complete article, via British Army Review special report

**The British clearance of the German town of Rees (1945) is described in this 13-page military journal article, and lessons drawn for future urban combat.** The paper presents an account of the 2-day operation, including the crossing of the Rhine, breaching the defended perimeter, and clearing the urban centre. Observations are presented under a range of headings including: planning, principles, night ops, support fire, bombing efficacy, and enemy methods. The author concludes with general takeaways - urban clearance is slow, it requires focus on small objectives from a firm base, flame weaponry is of immediate effect, and that the rubble of urban areas is a hindrance to the infantry as they close with the enemy. This is a detailed narrative replete with strong images of mortars, snipers, command casualties, and confused close-quarter fighting which will be of interest to soldiers and commanders.

Keywords: tactical, infantry tactics, artillery employment, germany

### **The Battle of Aachen**

Price et al, The Battle of Aachen, CGSC-CSI, 1984.

Click [here](#) for the complete article

**This 150-page staff-college battlebook provides a strategic overview of the US deliberate attack on the German city of Aachen (1944), and offers description and analysis of the battle.** The authors paint a picture of a decisive US victory, with infantry supplemented down to the platoon level by self-propelled 155mm guns and tank destroyers, and supported by massive aerial and artillery bombardment. Mainly concerned with the operational level of combat, the paper offers occasional glimpses of tactical techniques utilised.

Keywords: strategy, operations, tactical, combined-arms tactics, artillery employment, direct fs, artillery-direct, anti-tank guns, germany, aachen

### **Two Points of View: I. The Immediate Origins of the Battle of Athens**

Stavrianos, Two Points of View: I. The Immediate Origins of the Battle of Athens, *The American Slavic and East European Review*, 1949.

Available through subscription. Click [here](#) for abstract and access

**This 14-page journal article considers the causes of the battle of Athens (Dec 1944), a conflict between British led forces and the hitherto-allied Greek resistance following the liberation of the country in October.** The author looks to dispute the Churchillian narrative of a communist ‘plot to seize power’, arguing instead that it was a failure to find a mutually agreeable disarmament formula which alienated the EAM-ELAS forces and precipitated the battle. This is a carefully crafted corrective which makes clear complex politics and contextualises the ominous order cabled from Churchill to the local commander, to ‘restore and maintain order by whatever means necessary’.

This paper is paired by the journal with another on the same topic: McNeill, The Outbreak of Fighting in Athens, December, 1944, *American Slavic and East European Review*, 1949

Keywords: political, policy, athens

## **EASTERN EUROPE AND EASTERN FRONT 1918-1949**

### **Stalingrad and Berlin: Fighting in Urban Terrain**

Weinberg, Stalingrad and Berlin: Fighting in Urban Terrain, *Soldiers in Cities: Military Operations on Urban Terrain*, SSI, 2001.

Click [here](#) for the complete article

**The battles for Berlin and Stalingrad are examined in this 11-page conference paper to extract what are argued to be enduring characteristics of urban warfare.** Writing to inform the US military the author distils a range of constants including: the devolution of fighting to very small groups; that urban fighting is more draining than other environments; the morale and effect impacts of airpower and forward artillery; the difficulty of effective infantry/tank cooperation; complications of the subterranean dimension; high cost in casualties, supplies, and ammunition; the relevance of material collateral damage and civilian casualties; and the danger of allowing tech to tempt commanders to operate at a distance. This is a readable, wide ranging application of the cases which offers insights to commanders and logisticians.

Keywords: tactical, germany, russia, berlin, stalingrad

### **Lessons from Soviet Urban Operations 1945**

Whitchurch, Lessons from Soviet Urban Operations 1945, *British Army Review Special Report-Urban Operations-Volume 2 Winter 2019*, 2014.

Click [here](#) for the complete article, via British Army Review special report

**Three aspects of the Soviet Vistula to Oder campaign (JAN 1945) are examined in this 6-page journal article to glean lessons for today's British Army.** The paper holds the campaign up as a model for operations in and around urban areas, arguing that actions to pre-empt and dislocate the enemy lower the cost of urban victory. The capture of Lodz, Poznan, and the Silesian industrial region are considered in turn, all with a brief overview of operations and analysis of success. The author concludes that these operations are underpinned by mobility, deception, and simple command, and demonstrate that the imperative is to defeat the enemy, and not necessarily fight him. This is a concise and readable analysis of lesser-known cases.

Keywords: theory, operations, germany, russia, lodz, poznan, silesia

## Stalingrad

### Stalingrad

Beevor, *Stalingrad*, 1998.

Hard copy

**This 500-page book of narrative history recounts the Russian victory at Stalingrad in 1943, describing the unfolding of operations but also examining the nature of urban warfare through the experiences of soldiers and civilians.** In a 5-part overview of the conflict aimed at the general reader, the book covers Operation Barbarossa - the German invasion of Russia - through to the encirclement and destruction of the German 6th Army. Part 3 is concerned with the battle for Stalingrad itself, ranging through; the battles, tactics, discipline and morale, civilians and POW, supply and reinforcement, command and control, medical considerations, and intelligence gathering and operations. This is a highly-readable work of history which has been praised by reviewers and is a best-selling and definitive account of the subject. The incisive quotes and instructive anecdotes - from tank rifles being lashed to cartwheels for anti-aircraft fire to extraordinary acts of bravery from medics - will be of particular use to the trainer.

Keywords: political, strategy, operations, tactical, intelligence support, information operations, infantry tactics, artillery employment, russia, stalingrad

### Stalingrad and the Evolution of Soviet Urban Warfare

Stone, Stalingrad and the Evolution of Soviet Urban Warfare, *Journal of Slavic Military Studies* 22, 2009.

Click [here](#) for the complete article

**Stone in this 14-page journal article examines pre-war Soviet urban doctrine and its development and refinement during the battle for Stalingrad.** Taking the less-accessible Soviet point of view of the conflict, the author begins by describing the doctrine and experience the Soviets brought to Stalingrad, and then considers the tactical adaptations and improvements made. The author concludes with the lessons that can be drawn from the Soviet experience; urban operations are expensive in men and materiel, supply and equipment are vital, and tanks are valuable even in 'non-tank' terrain. Stone highlights the initiative and commitment of the Russian soldier as being fundamental to success and offers an insight into the adaptability and imagination employed by common Russian soldiers. This is a general discussion of tactical development of use to those interested in urban doctrine and its refinement.

Keywords: doctrine, operations, area defence, strongpoint defence, russia, stalingrad

### The Battle of Stalingrad

Lewis, Robertson & Yates (Eds), The Battle of Stalingrad, Block by Block: The Challenges of Urban Operations, *US Army Command and General Staff College*, 2003.

Click [here](#) for the complete article

**This 33-page research paper provides an overview of the battle of Stalingrad, and examines primary sources to glean tactical insights from the conflict.** Writing for a US army urban operations compilation, the author presents the situation and narrative of the battle focussed at the operational/strategic level before examining ammunition expenditure and casualty statistics. Tactical considerations are sourced primarily from a 24th Panzer Division AAR which are contextualised and commented upon, covering aspects including: combined infantry/armour TTPs; CAS and coordination with airpower; infantry reorganisation and engineer tasking in response to the urban environment; and artillery employment and synchronisation. The author argues that aside from its scale, the most noteworthy development from Stalingrad was the evolution of a city of relatively minor significance into the critical factor of strategic decision making.

Keywords: strategy, operations, tactical, combined-arms tactics, cas, engineer employment, medical support, afv fs, afv shielding, tanks, anti-tank guns, russia, stalingrad

### **The German Debacle of Stalingrad Part 1 and 2**

Selle, The German Debacle of Stalingrad Part 1 and 2, *Military Review*, 1957.

Click [here](#) for the complete article

**The German 6th Army engineer commander offers personal recollections of the Stalingrad campaign in this 22-page military journal article.** Accounts of conversations with key players are illuminating, and contextualised within a general narrative at the operational level. The author was present for the whole campaign up until eight days before the capitulation of the 6th Army, and delivers a vehement attack on Hitler for mismanaging the attack and destroying the army. Upon return to Germany the author was sentenced to death for 'defeatist sentiment', yet avoided the firing squad and was eventually taken prisoner by the British. While this offers first-hand insights, it is of course sentimentally biased towards the German armed forces.

Keywords: germany, political, strategy, operations, russia, stalingrad

## **FORMER SOVIET TERRITORIES**

### **Chechnya**

#### **Russian Chechen Wars: Three Lessons for US Defense Planners**

Canfield, The Russian Chechen Wars: Three Lessons for US Defense Planners, *Institute for National Strategic Studies* (Israel) 2008.

Click [here](#) for the complete article

**This 4-page essay draws lessons from the Chechen wars and asks provocatively 'Will Iraq become America's Chechnya?'** Writing for the US military, the author focuses on three lessons from the conflict; the importance of HUMINT and the danger of US overreliance on technology; the realities of urban combat and the inadequate number of infantry in the US force structure; and the limitations of military force in achieving strategic success. This last point is the most developed, arguing that military gains are irrelevant unless they translate to enduring political success, and that effective strategy requires the employment of all means of national power while balancing military means with policy ends.

Keywords: political, policy, strategy, operations, chechnya, grozny

#### **A Small War: The Development of the Russian-Chechen conflict 1994-2010**

Roberson, A Small War: The Development of the Russian-Chechen Conflict 1994-2010, *USMC Command and Staff College*, 2010.

Click [here](#) for the complete article

**This 52-page research paper details the strategic unfolding of the Chechen conflict, identifying how a poorly conceived and heavy-handed military approach exacerbated the situation and fuelled the rise of ideological terrorism, before a change to a population-centric campaign saw major gains toward ending the insurgency and restoring stability.** Writing for the US Marine Corps, the author reviews the conflict from its historical base through the two Russian invasions of 1994 and 1999. He examines the rise of radical Islam among the separatist forces and describes the improvements in Russian response throughout the occupation. The paper highlights the link between population support and victory throughout the war's phases and sees similarities to the Chechen campaign in the unfolding

US operations in Iraq and Afghanistan. This is a concise and comprehensive overview which will be an informative case-study for the operational planner and the trainer.

Keywords: political, strategy, operations, information operations, cimic, chechnya, grozny

### **Chechnya: Russia's Quagmire**

Chechnya: Russia's Quagmire, EMPRIC, *US Army War College*, 2002.

Click [here](#) for the complete article

**This 33-page US Army War College research paper examines the strategic context and implications of the Russia/Chechnya conflict, and investigates links to the al-Qaeda terrorist network.** The paper describes the regional strategic setting of the conflict, its history and current state, and explains the difficulties posed for negotiations by the seemingly irreconcilable strategic goals of the protagonists. The involvement of al-Qaeda in the conflict - and of Chechens in al-Qaeda - are explored with an eye to the implications for the region. The author fears that the conflict may prove intractable, and draws parallels with the Israel/Palestine war - a decades long protracted struggle which is characterised by a refusal to yield and quick resort to indiscriminate force.

Keywords: policy, strategy, chechnya, russia, grozny

### **Technology and the Second Chechen Campaign: Not All New and Not That Much**

Grau, Technology and the Second Chechen Campaign: Not All New and Not That Much, *Conflict Studies Research Centre, Royal Military Academy Sandhurst*, 2003.

Click [here](#) for the complete article

**In a 10-page essay, Grau suggests the major tactical innovation of the 2nd Grozny campaign (1999-2000) was Russian forces dictating a long-range conflict, and he describes the weapon systems which were then able to be deployed.** Writing for a military audience, the author begins with a description of Russian artillery, rocket and mortar assets, their history, and deployment during the conflict. He describes the use of air power, and the restructuring and retraining of the infantry to maximise the effect of the RPO-A Schmel flame thrower. The author notes that in the first battle for Grozny (1996) Russian superiority in firepower was negated by the Chechen tactic of 'hugging' in the sub-300m battlespace where Russia's overwhelming preponderance of indirect fire technology could not be brought to bear. He suggests that this lesson had to be re-learned from Russia's Afghanistan experience, as it was not incorporated into training and force structure.

Keywords: tactical, combined-arms, artillery-indirect, rocket launcher, guided bomb, ebt projectiles, smoke, incendiary, grozny, rpo-a, schmel

## **Grozny**

### **Tanks in Grozny**

Voronov, Tanks in Grozny, *Henry Jackson Society-Radio Free Europe*, 2014.

Click [here](#) for the complete article

**This 11-page journal article examines the failed Russian covert operation to overthrow the Chechen President which preceded by 2 weeks the disastrous Russian invasion of Chechnya 1994-96.**

The author, a Russian journalist writing for a general audience, details the history and planning of the armoured coup de main, and then describes the chaotic unfolding and failure of the operation. The paper presents a vision of a cynical, shoddy counter intelligence exercise which betrayed the Russian soldiers involved and their indigenous allies. This is a graphic illustration of leadership and planning failure,

and provides gritty anecdotes – from tanks rolling into service stations in search of diesel, to the absence of coms because the batteries hadn't been charged – which will be of interest to the trainer.

Keywords: operations, intelligence support, information operations, combined-arms tactics, armour tactics, cimic, chechnya, grozny

### **“I Can Fight, Army Against Army”: The 1994-1996 Russo-Chechen War, Strategies and Misconceptions**

“I Can Fight, Army Against Army”: The 1994-1996 Russo-Chechen War, Strategies and Misconceptions, Henkin, *Ethno-Nationalism, Islam and the State in the Caucasus: Post-Soviet Disorder*, 2008.

Click [here](#) for the complete article

**This 12-page essay from an Israeli military academic analyses the opposing strategies in the 1994-96 Russo-Chechen war, and examines how these translated to a crushing defeat for the militarily superior Russian force.** The paper contrasts a consistent, logical Chechen military/political policy with an uncoordinated, unclear Russian response which clung to characterisations of the enemy as ‘bandits’, ‘terrorists’, and ‘gangs’ despite the reality of the battlefield. This is a quick illustration on the importance of appreciating the strengths of the enemy.

Keywords: strategy, operations, chechnya, grozny

### **Russian Tactical Lessons Learned Fighting Chechen Separatists**

Thomas, Russian Tactical Lessons Learned Fighting Chechen Separatists, *The Journal of Slavic Military Studies* 18:4, 2005.

Click [here](#) for the complete article

**In a 38-page military journal article, Thomas suggests that Russian armed forces have amassed an expertise in counter-insurgency operations after a decade of conflict in Chechnya and draws together a range of sources from both sides of the Chechen conflict in a ‘lessons-learned’ format.** The author summarises the current state of the conflict in Chechnya and synthesises tactical and operational observations from various Russian media and military commentators. He draws upon insights from commanders on both sides of the conflict, interviews, reports of captured documents, Russian military journals and publications, noting this combined experience may be of value to similar US operations current in Iraq. Thomas is an analyst at the US Army Foreign Military Studies Office and has served as Director of Soviet Studies at the US Army Russian Institute.

Keywords: political, tactical, information operations, infantry tactics, civil military, ambush, perimeter defence, ttp, sharpshooting, sniping, grozny, ied

### **Tactical Observations from the Grozny Combat Experience**

Jenkinson, Tactical Observations from the Grozny Combat Experience, *US Army Command and General Staff College*, 2002.

Click [here](#) for the complete article

**In this 127-page thesis, Jenkinson examines the 1994 and 1999 battles for Grozny, seeking to inform urban combat theory and improve doctrine by examining the lessons learned and applied by both sides.** Written for a US military audience, the paper includes; a detailed history of the Chechen conflict, a description of the operations to take and hold the capital city Grozny, and accessible dot-point lists of tactical lessons learned by both the Russian and Chechen forces. The author observes that US urban doctrine stops at the battalion level and does not conceive of the seizure and clearance of a

whole city, and sees these battles – over the same ground, by the same belligerents, at the same time of year – as a learning opportunity for the US military. A comprehensive overview of the conflict with a well organised synthesis of lessons learned.

Keywords: doctrine, operations, tactical, intelligence support, information operations, combined-arms tactics, targeting, cimic, ttp, grozny

### **Lessons of the War in Chechnya 1994-96**

Levin, Lessons of the War in Chechnya 1994-96, *Soldiers in Cities: Military operations on Urban Terrain*, SSI, 2001.

Click [here](#) for the complete article

**Operational and strategic considerations for future urban conflict against versus local adversaries strongly rooted in the population are explored in this 17-page conference paper, which uses examples from the Chechen conflict (1994-1996) to explain and highlight concepts.** Writing for the US military, the author argues that the enormous differences between societies - and the wide divergence in violent struggle they generate - negate the usefulness of a general urban warfare doctrine beyond the tactical. Drawing on observations of the Russian debacle, the paper emphasises instead knowing your enemy and their society, and leveraging of the 'necessary nightmare' of local allies. This is an accessible paper which moves discussion beyond the tactical level, and will be of interest to the military planner and the trainer.

Keywords: operations, intelligence support, civil-military, chechnya, grozny

### **Russia's Chechen Wars 1994–2000: Lessons from Urban Combat**

Oliker, Russia's Chechen Wars 1994–2000: Lessons from Urban Combat, *RAND*, 2001.

Click [here](#) for the complete article

**This 119-page research paper examines the Russian learning curve over the two battles for Grozny, highlights general lessons for all forces engaged in urban operations, and draws specific conclusions regarding the current urban capability of Russian forces.** Researching for the US Army, Oliker begins with a general summary of lessons learned, continues into a more detailed examination of the two operations, and examines Russian reform efforts 'between the wars'. The author concludes that Russia is capable of real reform, but struggles to entrench learning in the medium term, as illustrated by their difficulties taking the town of Komsomolskoye after the fall of Grozny. The author identifies the causes of Russian failure as complacency and a failure to prepare, and argues that successful operations will require forces to commit to training specifically for the urban theatre. This paper offers a comprehensive overview of lessons learned - and not learned - and focusses at the operational level.

Keywords: strategy, operations, tactical, combined-arms tactics, chechnya

### **Urban Operations in Chechnya: Lessons Learned and Implications for US Doctrine and Training**

Pike, Urban Operations in Chechnya: Lessons Learned and Implications for US Doctrine and Training, *US Army War College*, 2001.

Click [here](#) for the complete article

**In a 78 page monograph, Pike contends that US forces are underprepared for urban combat and that lessons learned from the Russian failure in Chechnya need to be incorporated into doctrine and training.** The author begins by examining Russian doctrinal and training shortcomings and lessons-learned over the two Chechen campaigns (1994-1996/ 1999 -) and then provides an assessment of US Doctrinal and Training readiness for urban operations. Writing for a US military audience,

Pike argues that there are deficiencies in political/strategic doctrine and a lack of combined arms training at the operational level. He makes specific recommendations for improvement, and contends that a greater commitment to the inevitability of urban operations is required to entrench capability. A prescient pre-Iraq paper of use to those interested in urban operations doctrine.

Keywords: policy, strategy, doctrine, operations, combined-arms tactics

### **New Year's Carousel: memories of a tank driver**

Vechkanov, New Year's Carousel: memories of a tank driver, prepared for Krasnaya Zvela Newspaper, online version, Military-patriotic site "Courage", (in Russian, use online translator).

Click [here](#) for the webpage

This is frank and revealing personal memoir of the battle of Grozny 1984/5 by a tank company commander. It begins by sketching administrative details such as quantities and types of ammunition as the unit is warned for operations. The author then describes the political and military ambiguities as they deploy into Chechnya – recounting discussions about unrealistic rules of engagement and theft of vehicle fuel. The fighting is portrayed in extraordinary and brutal detail, dealing with horror unemotionally, specifying individuals, streets and even vehicle numbers as well as describing tactics and weapon systems. This article was written for the expressed purpose of sharing the lessons of battle and the unusual source, honesty and vividness of the account will interest diverse readers. (Note that the photographs work best if accessed in the original Russian, but for translation the web link should be posted into a suitable online translation tool.)

Keywords: grozny, chechnya, operations, tactics, techniques and procedures, combined-arms tactics, armoured vehicles, munitions, casualties

### **On Urban Warfare in Chechnya**

Dilegge, On Urban Warfare in Chechnya- General-Major Tourpal-Ali Kaimov, *Small Wars Journal*, 2000.

Click [here](#) for the complete article

**In this 16-page edited transcript, General Kaimov, a senior Chechen leader during the 1994-96 Russian invasion, gives a first -hand account of conducting a successful urban insurgency against a conventional force, focussing on operational and tactical considerations.** Speaking in 2000 as part of a US Marine Corps research project to improve urban operation capability, Kaimov discusses his recommendations for conducting urban operations in general, and then presents a Chechen perspective on the specific tactical implications of irregular versus conventional forces in the urban context. He concludes with a detailed explanation of Chechen ambush technique. As editor, Dilegge contributes a short overview of the conflict and a biography of Kaimov. Kaimov argues that Chechen forces were able to inflict defeat on an overwhelming conventional force by choosing to fight in the urban theatre, and through the flexible and creative use of resources and highly motivated troops. He illustrates these points with specific, on-the-ground examples. This paper offers a valuable insurgent/irregular force perspective and first-hand insights.

Keywords: strategic, political, operational, tactical, tactics techniques and procedures, ttp, case study, engineering, bridging and demolitions, munitions, armoured vehicles, doctrine, small arms

### **Grozny 2000 Urban Combat Lessons Learned**

Thomas, Grozny 2000: Urban Combat Lessons Learned, *Military Review July/August*, 2000.

Click [here](#) for the complete article

**In a 12-page US Army journal article, Thomas provides a general outline of the Russian clearance of Grozny (1999), and an examination of the lessons learned (and not learned) by the Russian Military from their difficulties taking and holding the city in 1995.** The author considers; a massive increase in troop numbers, a preference for artillery and air power, less political interference in operational matters, improved communications, a reconnaissance and observation focus, control of the media and domination of public opinion, psychological operations, and better troop preparation. Thomas then discusses unresolved problems from the first campaign, including friction and interoperability between Interior Ministry troops and Defence troops, and no solution to Chechen 'hugging' tactics. The author concludes that operational success for the Russians in 1995 required the complete destruction of the city, and that this cannot be considered a strategic success.

Keywords: operations, tactical, information operations, combined-arms tactics, cimic, planning, reconnaissance, grozny

### **The Battle of Grozny: Deadly Classroom for Urban Combat**

Thomas, The Battle of Grozny: Deadly Classroom for Urban Combat, *Parameters*, Summer 1999.

Click [here](#) for the complete article

**In an 11-page journal article, Thomas examines the 1995 Battle for Grozny as a cautionary tale for conventional forces engaging an irregular enemy in urban terrain, and argues that a vast range of actions and constraints must be understood prior to such a commitment.** Writing for the US Army War College, the author offers a general overview of the conflict and forces deployed, then discusses five specific areas; understanding of the enemy, preparation, suitable weaponry, adaptive tactics and effective communications. Thomas argues that preparation must begin in peace time as the tasks required to facilitate urban operations are enormous. In addition he urges writers of doctrine to consider over-arching concepts; political impact, the limitations of urban fighting, global integration of economic assets, the characteristics of the enemy, city size, infrastructure, and probable enemy methods of negating conventional advantage. The author presents a thought-provoking paper of particular interest to those interested in planning and doctrine formulation.

Keywords: policy, doctrine, operations, tactical, information operations, infantry tactics, armour, artillery, cimic, ttp, rpg, shmel, sharpshooting/sniping, grozny

### **The Battle(s) of Grozny**

Faurby & Magnusson, The Battle(s) of Grozny, *Baltic Defence Review* 2, 1999.

Click [here](#) for the complete article

**In this 13-page military journal paper, the authors outline the Russian efforts to take and hold the Chechen city of Grozny in the period 1994-96, and analyse the reasons for failure.** Beginning with a strategic overview and the operational intent of both sides, Faurby & Magnusson describe the orders of battle and the course, and ultimate failure, of the Russian invasion. They examine causes for failure - lack of analysis and planning, divided leadership, shortfalls in maintenance and training, use of conscripts and amalgamated units, poor coordination of forces and communications, lack of intelligence, and low morale and motivation. The authors use this discussion to contextualise the current (1999) conflict and predict its progress and outcome. This is a readable general overview of the conflict and lessons-learned.

Keywords: political, strategy, operations, infantry tactics, ttp, grozny

### **The Caucasus Conflict and Russian Security: The Russian Armed Forces Confront Chechnya Part 3: The Battle for Grozny**

Thomas, The Caucasus Conflict and Russian Security: The Russian Armed Forces Confront Chechnya Part 3: The Battle for Grozny, 1-26 January 1995, *Journal of Slavic Military Studies*, Vol 10, No.1 1997: 50-108.

Click [here](#) for the complete article

**This 61-page journal article from US army Russia expert Tim Thomas offers an overview of the first battle of Grozny and an early discussion of lessons learned from the conflict.** The paper synthesises a comprehensive range of Russian government and media reports to fashion a narrative of the battle, focussing at the strategic and operational level. Psychological operations and perspectives are discussed in depth, then a range of general lessons-learned are drawn from Russian commentary and summarised by the author. Thomas cautions that government and media reports are often contradictory and the nature of the sources gives only the Russian perspective, while painting a picture of poor leadership at all levels and deficits in training, planning, and preparation.

Keywords: political, strategy, operations, information operations, chechnya, grozny

### **The Caucasus conflict and Russian Security: The Russian Armed Forces Confront Chechnya Part One, Section Two: Military Activities of the Conflict During 11-31 December 1994**

The Caucasus conflict and Russian Security: The Russian Armed Forces Confront Chechnya Part One, Section Two: Military Activities of the Conflict During 11-31 December 1994, Thomas, FMSO, 1995.

Click [here](#) for the complete article

**Russian media and open-sources are analysed in this 30-page research paper to understand the events leading up to the disastrous defeat of Russian forces in Grozny.** Focusing on military considerations, the paper examines the force structure, strategy and tactics of the belligerents, and makes a special study of the PSYOPS and information operations which framed the conflict. This is a paper from an influential contemporary analyst and best read in conjunction with his "The Caucasus conflict and Russian Security: The Russian armed forces confront Chechnya (3) The battle for Grozny, 1-26 January 1995," available in this bibliography.

Keywords: strategy, operations, information operations, chechnya, grozny

### **Russian Urban Tactics: Lessons from the Battle for Grozny**

Grau, Russian Urban Tactics: Lessons from the Battle for Grozny, *Institute for National Strategic Studies*, USA, 1995.

Click [here](#) for the complete article

**Grau presents a 5-page brief on the tactical improvements made by Russian forces after their initial disastrous defeat at the hands of Chechen fighters in the first battle for Grozny 1994-96.** The author gives a brief description of the operational, planning, and IPB failures, and then summarises lessons-learned and improvements made in the deployment of combined arms, armoured, artillery, and air assets. This paper presents vivid, concise snapshots of the conflict which will be of utility to the trainer.

Keywords: combined-arms tactics, operations, armour, artillery, engineer, logistics, chechnya, grozny

### **Grozny and the Third Block (Lessons Learned from Grozny and their Application to Marine Corps' MOUT Training)**

Kelly, Grozny and the Third Block (Lessons Learned from Grozny and their Application to Marine Corps' MOUT Training), *USN Naval Postgraduate School*, 2000.

Click [here](#) for the complete article

**In a 119-page thesis Kelly argues that while the US Marine Corps is prepared for Humanitarian and Security operations in urban areas, it is lacking capability for the 3rd Block of urban warfare - high intensity combat.** The author begins with an argument for the increased likelihood of urban operations, and an overview of the battles for Grozny (1994-96 and 1999-2000). Kelly then analyses current MOUT training content and frequency in light of lessons-learned from the conflict, and concludes with recommendations for training improvement. The author suggests current MOUT training policy and procedures are actually degrading 3rd Block capability, and makes a case for a dedicated large-scale training area, high status combined arms exercises, and an increase in training focus and intensity.

Keywords: doctrine, combined-arms, ttp, cqb, grozny

### **The Battle of Grozny Lessons for Military Operations on Urbanized Terrain**

Rupe, The Battle of Grozny Lessons for Military Operations on Urbanized Terrain, *Armor Magazine*, 1999.

Click [here](#) for the complete article

**In this 5-page journal article the author examines the Russian military failure in Chechnya and its implications for US urban doctrine, focussing mainly at the tactical level.** A serving armoured officer writing for the US Armor Corps journal, Rupe begins with an overview of the conflict and operations, and then considers Russian failures - grouped under US Battlefield Operating Systems headings - and makes suggestions for improvement. This paper is of particular interest to trainers for its perspective - a junior officer thinking through a 'how would I do it better' scenario in a professional dialogue with corps colleagues.

Keywords: doctrine, combined-arms, armour, chechnya, grozny

## **Ukraine and Georgia**

### **Cyborgs at Little Stalingrad: A Brief History of the Battles of the Donetsk Airport**

Fox, Cyborgs at Little Stalingrad: A Brief History of the Battles of the Donetsk Airport, *Institute of Land Warfare*, 2019.

Click [here](#) for the complete article

**This 28-page US Army journal article describes the 2014 battles for the Donetsk Airport in Ukraine, and draws from the campaign observations regarding Russian capabilities and intent.** Beginning with an overview of the Russian invasion of Ukraine and the summer offensive, the paper focusses on the epic 242-day siege fought by the Ukrainians against Russian regular and proxy forces for the possession of the Donetsk Airport. Highlighting that rugged, combined arms land warfare is not a thing of the past, the author observes that Russian forces and commanders are gathering a wealth of experience with these operations and should not be underestimated. This handy 'soldiers five' on the conflict in the Ukraine is an example of urban terrain outside of the standard city-scape, and will be of particular use to trainers.

Keywords: strategy, operations, russia, ukraine, donetsk airport

## **ISRAEL THE SOUTHERN LEVANT, JORDAN AND EGYPT**

### **Urban-Warfare Lessons: The Jordanian-Palestinian Conflict of 1970**

DeAtkine, Urban-warfare Lessons: The Jordanian-Palestinian conflict of 1970, *Special Warfare*, 2001.

Click [here](#) for the complete article

**The importance of understanding the cultural and human dynamics within middle eastern cities is highlighted in this 8-page journal article, with the author drawing insights from personal experience on the ground during the battle for the Jordanian city of Amman, fought between Jordanian forces and the PLO in September, 1970.** The author - a military attaché at the US Embassy during the battle - supplies an overview of the causes and unfolding of the conflict, and draws lessons for contemporary US operations including: the primary focus of civil affairs and Psyops to separate the insurgents from popular support; the requirement for specially trained forces with an urban background; the danger of employing forces from differing communal groups, where the operation may degenerate into a them-and-us conflict; and the importance of controlling information and understanding the human terrain and its concepts of leadership and identity. This is a very readable paper which offers a blend of analysis and personal recollection.

Keywords: operations, information operations, civil-military, amman, social science, psychology

## Lebanon

### **Back to Basics: What the British Army Should Learn from the 2nd Lebanon War**

Owen, Back to Basics: What the British Army Should Learn from the 2nd Lebanon War, British Army Review Special Report-Urban Operations-Volume 1 Winter 2018, 2010.

Click [here](#) for the complete article, via British Army Review special report

**This 11-page journal article from an Israel based analyst seeks to dispel the simplified, inaccurate narrative of the 2nd Lebanon War (2006) and offers an alternative summary of lessons learned from the conflict.** The paper dispels the notion of Hezbollah as a particularly sophisticated or unfamiliar enemy, and explores its performance to conclude that capabilities have been overrated in post-conflict analysis. IDF shortcomings are explored, and failings attributed to incoherent strategy, and ineffective post-modern command fads. The author argues Hezbollah is so specifically rooted to a specific place that little can be generalised, and that all-arms combat operations are the minimum standard against competent enemies conducting fortified regional defence. This spirited, frank corrective concludes that the conflict is not a signpost of the character of future war, but a caution of the danger of ignoring what should be well known and understood.

Keywords: operations, israel/palestine, lebanon

### **Military Operations in Urban Environments: The Case of Lebanon 1982**

Tamari, Military Operations in Urban Environments: The Case of Lebanon 1982, *Soldiers in Cities: Military operations on Urban Terrain*, SSI, 2001.

Click [here](#) for the complete article

**The Israeli invasion of Lebanon (1982) is used to illustrate that operational concepts rooted in traditional high intensity urban combat are not relevant to contemporary 'new wars', and that there are no tactical solutions to what are essentially strategic problems.** The author frames the future operating environment as versus a leader/regime/civil war amongst an urban population, and explores the associated complexity and implications. The Lebanon case is presented at the strategic/operational level, scrutinising Israeli government conceptualisations, how these were understood by the IDF, and how this translated on the ground. The paper concludes with recommendations for new ways of thinking, including power projection concepts over military force, the centrality of populations to operations, and concerns over the dangers of proxies. This is a considered, provocative, and well-argued paper which provides insights applicable to more than this specific case.

Keywords: political, strategy, israel/palestine, lebanon

### **MOUT and the 1982 Lebanon Campaign: The Israeli Approach**

Leaf, MOUT and the 1982 Lebanon Campaign: The Israeli Approach, *Armor*, 2000.

Click [here](#) for the complete article

**This 4-page armour-corps article offers a handy tactical summary of the Israeli invasion of Lebanon (1982), and identifies points to inform US TTPs and procurement.** The author quickly summarises the fighting through Tyre, Sidon, and on to Beirut, charting an operation which progressively falls behind schedule and becomes more reliant on firepower. The author identifies flexibility as the key enabler, noting evolving tactics and the drafting of more heavily armoured platforms when APCs proved inadequate in urban terrain, and is prompted to ask “is there any such thing anymore as ‘light’ armoured vehicles?”. This is a quick, clear, summary which will prove useful to the trainer.

Keywords: tactical, infantry tactics, armour tactics, afv employment, aev, tanks, apc, lebanon, israel/palestine

### **The IDF, the PLO and Urban Warfare: Lebanon 1982**

McMillin, The IDF, the PLO and Urban Warfare: Lebanon 1982, *University of Chicago Centre for Middle Eastern Studies*, 1993.

Click [here](#) for the complete article

**The 1982 Israeli attack into Lebanon (1982) is examined in this 83-page thesis, which highlights how restrictions on the use of firepower left the IDF unable to defeat a quantitatively and qualitatively inferior PLO force.** This staff college paper reviews the history, organisation, equipment, and aims of the belligerents, before providing a narrative of the campaign, focussing on the urban battles of Tyre, Sidon, and Beirut. Israeli efforts to force-protect with indirect fire support are detailed, and the adverse humanitarian, morale, and reputational implications of this high-firepower approach are elucidated. The role of the media in shaping international and domestic attitudes during the campaign is discussed. This is an informative and well-structured case study which effectively frames a central dilemma of urban combat for all audiences.

Keywords: political, strategy, operations, information operations, civil-military, ihl, israel/palestine, lebanon, beirut, sidon, tyre

### **The Battle of Sidon**

The Battle of Sidon, McLaurin, US Army Human Engineering Laboratory, 1989.

Click [here](#) for the complete article

**The battle for Sidon (during the 1982 Israeli campaign to eradicate the PLO from Lebanon) is described in this 75-page research paper, which draws on the perspectives of participants from both sides to understand the use and effectiveness of weapons, tactics and PSYOPS.**

Writing to inform the US Army, the author provides background, situation, concepts of operation, tactical plans, a narrative of the battle, and draws insights regarding: weapons; mines and explosives; armour employment; artillery - particularly its efficacy in a direct fire role; mortars; anti-aircraft artillery against ground targets; CAS; training; C3I; engineers; and PSYOPS. This is an informative, concise analysis of a lesser studied urban conflict, of particular interest for its observation that a small, disorganised, irregular resistance can ‘translate determination and sacrifice into military staying power’ in the urban environment.

Keywords: political, operations, information operations, direct fs, wall charges, he breaching, grenades, artillery-direct, tanks, engineer employment, spgs, small arms, sniping, israel/palestine, lebanon, sidon

### **The Battle of Tyre**

McLaurin, The Battle of Tyre, *US Army Human Engineering Laboratory*, 1987.

Click [here](#) for the complete article

**The Israeli assault on Tyre during their campaign to eradicate the PLO from Lebanon (1982) is detailed in this 59-page research report which synthesises the observations of participants and observers to garner tactical insights.** Writing for the US Army, the author gives a background to the conflict and an overview of the belligerents, their organisation and capabilities, and their concepts of operations and tactical plans. The battle is narrated, and consideration given to aspects including: weapons, training, tactics, C2, Intel, PSYOPS and civil affairs. The paper characterises the operation as a tactical success for the IDF which failed to translate to political success due to an absence of planning to support the displaced civilians of southern Lebanon. This is a detailed but concise primer on the battle.

Keywords: political, strategy, operations, tactical, intelligence support, information operations, combined-arms tactics, civil-military, afv employment, tanks, spg, apc, rpg, sharpshooting/sniping, israel/palestine, lebanon, tyre

### **The Battle of Zahle**

McLaurin, The Battle of Zahle, *US Army Human Engineering Laboratory*, 1986.

Click [here](#) for the complete article

**The Syrian siege of the Lebanese town of Zahle (1981) is scrutinised in this 49-page research paper for observations of tactics, weapons, and communications, and as a demonstration of the dramatic value of info-ops in influencing urban warfare.** Writing to inform the US Army, the author analyses interviews, questionnaires and multi-lingual open-source documents to give a background to the conflict, outlines the concepts of operations and tactical plans, and provides a narrative of the battle. In a scrappy, tactical victory for the Syrians, the paper explores how the defenders deftly leveraged international opinion to salvage a strategic victory. A lesser-studied case with non-western protagonists, this paper offers fresh insights and examples - booby trapped lightbulbs through to the failure of unaccompanied armoured thrusts. This article is useful for those seeking to explore the interplay between information operations and kinetic operations.

Keywords: political, strategy, operations, information operations, smoke grenades, afv employment, anti-tank guns, rpg, lebanon, syria

### **Military Operations in Selected Lebanese Built-Up Areas 1975-1978**

Military Operations in Selected Lebanese Built-Up Areas 1975-1978, Jureidini et al, *US Army Human Engineering Laboratory*, 1979.

Click [here](#) for the complete article

**The conflict in Lebanon 1975-1978 is explained and distilled for urban warfare insights in this 172-page research paper which draws upon the reflections of participants and focusses on weapons usage, tactics, and C3.** Writing for the US Army, the authors give a background to the conflict and combatants, and offer a battle-by-battle analysis. Observations include: the force-multiplier effect of tunnelling and sniping; the value of anti-aircraft and anti-tank weapons against ground targets and installations; the opportunities in targeting logistic support; and the impact of armoured vehicles, recoilless rifles, and the RPG. Innovations noted include the adaptation of aircraft missiles for ground firing, and rolling explosive filled barrels at enemy positions to breach defences. This is an informative paper which to explain a complex geo-political conflict, and includes appendix tables, summaries, and chronologies for this purpose.

Keywords: operations, tactical, afv employment, artillery-direct, anti-tank guns, recoilless rifles, heat projectiles, he projectiles, rpg, sniping, lebanon, syria

## Israel

### **Seven Times Around a City: The Evolution of Israeli Operational Art in Urban Operations**

Moerbe, *Seven Times Around a City: The Evolution of Israeli Operational Art in Urban Operations, US Army Command and General Staff College*, 2016.

Click [here](#) for the complete article

**This 96-page staff-college monograph looks to identify trends in IDF approach to operations by examining performance and changes over time from the 1982 attack into Lebanon through to the recent Gaza war, 2014.** Writing for the US military, the author examines the institutional character and history of the IDF, and analyses its operations chronologically, focussing on three aspects: understanding and reimagining the physical space of the city; contesting the intangible domain of psyops, info-ops and the battle for the global audience; and the operational processes employed. The paper identifies several key trends: the development of a more sophisticated approach to physical space; an engagement in the intangible domain which now is considered equally important to physical combat; and a move toward decentralised problem solving and formalisation of the concept of learning in combat. This is a good summary of recent Israeli military interventions and could be of interest in the strategy domain.

Keywords: political, strategy, operations, information operations, israel/palestine, lebanon, gaza

### **Capturing Contemporary Innovation: Studying IDF Innovation against Hamas and Hizbollah**

Berman, *Capturing Contemporary Innovation: Studying IDF Innovation against Hamas and Hizbollah, Journal of Strategic Studies*, 2012.

Request full text from [here](#)

**This journal article examines IDF performance and culture between 2000-2009 in order to inform frameworks for understanding the drivers of military innovation.** The product of a US conservative think-tank, the 28-page paper identifies a lack of innovation leading up to the 2nd Lebanon War (2006), and then improvements following the disappointing showing of the IDF in this conflict. The intervention of civilian leadership is seen as particularly influential on innovation, for better or worse. This is a general treatment of the topic, which identifies a few caveats to extant concepts without offering any ground-breaking insight.

Keywords: policy, theory, israel/palestine, lebanon

### **Hard Fighting: Israel in Lebanon and Gaza**

Johnson, *Hard Fighting: Israel in Lebanon and Gaza, RAND*, 2011.

Click [here](#) for the complete article

**Israeli military performance versus Hezbollah in Lebanon (2006) and Hamas in Gaza (2008-2009) is analysed in this 265-page research report, which seeks to distil lessons for combating hybrid opponents and to enhance US Army/USAF interoperability.** The paper provides an overview of the situation, belligerents, and unfolding of the campaigns, and draws attention to specific issues including: complications of muddled strategy, the complexity of operating 'amongst the people', and joint effectiveness. The author makes specific recommendations for US Army/USAF joint operations, and draws a range of lessons from the analysis including: acknowledging that an enemy's capabilities will dictate the nature of the war; that despite a smaller scale, hybrid forces armed with stand-off fires (ATGM, Mortars, Rockets, MANPADS) demand a major combat response profile; precision fires and armoured forces remain critical; and that successful strikes into dense populations require intelligence capability which may not be obtained in most conflict. This is an informative primer to the conflicts which also offers insights into hybrid threats.

Keywords: policy, strategy, operations, operational-level, civil-military, israel/palestine, lebanon, gaza

### **If War Comes: Israel vs. Hizballah and its Allies**

White, If War Comes: Israel vs. Hizballah and its Allies, *The Washington Institute for Near East Policy*, 2010.

Click [here](#) for the complete article

**This 60-page report for a US policy think tank envisages how a new Israel/Hizballah conflict would unfold, and offers operational and strategic analysis of Israel/Hizballah/Syria/Iran/Hamas capabilities and intent.** The author contextualises rising tensions and discusses triggers for renewed conflict. The preparation, weaponry, strategy and operational concepts of the belligerents are examined in turn, and consideration given to US involvement. This is a detailed, comprehensive forecast which supports its predictions and hypotheticals with caveats and options. Israel's lessons learned fighting an adaptive insurgent group still hold relevance for doctrine writers. It offers a 'snapshot in time' analysis which has been rendered dated by subsequent events.

Keywords: strategy, statistics, operations, civil-military, israel/palestine, lebanon, syria, iran

### **The Battle for Jaffa, 1948**

Golan, The Battle for Jaffa, 1948, *Middle Eastern Studies*, 2012.

Click [here](#) for the complete article

**The strategic and political complexity of the battle for Jaffa (1948) is elucidated in this 16-page journal article, which serves as a historical overview of the topic.** The author seeks to articulate three aspects of the conflict - the military situation and escalation of the fighting, the internal power-conflict within the Jewish organisations involved, and the involvement of British forces defending the city which was intended to be the prime Palestinian port in the freshly-partitioned region. This is a clear introduction to the battle, focused at the strategic/policy level.

Keywords: political, strategy, israel/palestine

### **Back to Basics: A Study of the Second Lebanon War and Operation Cast Lead**

Farquhar (Ed), Back to Basics: A Study of the Second Lebanon War and Operation Cast Lead, *Combat Studies institute Press, US Army Combined Arms Center*, 2009.

Click [here](#) for the complete article

**This 156-page report documents the Israeli incursions into Lebanon (2006) and Gaza (2009) and focusses on lessons which can be drawn from transformations within the IDF.** Writing for the US Army, the authors offer: a narrative of the operations; analysis of the Israeli adversaries - Hezbollah and Hamas - their operating environment and methodology; a study of IDF tactics and learning displayed in the 2009 Gaza incursion; and a consideration of information operations and relevant lessons learned across the conflicts. This is a frank, comprehensive overview of the IDF operations, failings, and improves, which is an accessible and widely-cited primer on these battles.

Keywords: operations, tactical, information operations, ttps, israel/palestine, lebanon, gaza

### **The Fall of Jerusalem**

Schleifer, The Fall of Jerusalem, *Journal of Palestine Studies*, 1971.

Click [here](#) for the complete article

**An eyewitness to the Israeli attack on Jerusalem (1967) combines personal recollections with broader research to present a vivid narrative of the city's fall from the perspective of the defenders.**

Abdullah Schleifer was editor of the Jerusalem daily paper The Palestine News until the war, and this 20-page journal article drawn from his book on the topic offers a range of engaging vignettes:

command confusion, desertion, individual heroics, napalm attacks, medical tribulations, civilian dynamics, and heli-borne Israeli troops. This is an atmospheric piece which will offer the trainer pertinent examples and usable quotes.

Keywords: tactical, israel/palestine, jerusalem

## Gaza

### Lessons from Israel's Wars in Gaza

Lessons from Israel's Wars in Gaza, *RAND*, 2017.

Click [here](#) for the complete article

**This 12-page brief describes the RAND research report From Cast Lead to Protective Edge: Lessons from Israel's wars in Gaza and summarises the lessons it has drawn from the Israeli interventions in Gaza 2009-2014.** The brief provides context to the conflict in Gaza and provides an overview of operations Pillar of Defense (2012) and Protective Edge (2014). Illustrated with graphics and photographs, the paper highlights takeaways including: the limitations of precision firepower, the potential of missile defence systems, the value of armour and active protection systems, and the challenge of tunnel warfare. The full report is available at [here](#).

Keywords: strategy, operations, tactical, information operations, ihl, israel/palestine, gaza

### From Cast Lead to Protective Edge: Lessons from Israel's Wars in Gaza

Cohen et al, From Cast Lead to Protective Edge: Lessons from Israel's wars in Gaza, *RAND*, 2017.

Click [here](#) for the complete article

**The Israeli military interventions in Gaza 2009-2014 are analysed to extract relevant lessons for the US Army in this 246- page research report.** The paper presents the situation, history, and geography of Gaza before presenting an operational-level narrative of the operations Pillar of Defense (2012) and Protective Edge (2014), including analysis of legal, air defence, cyber, and intelligence considerations. Lessons are drawn including: that public support hinged on perceptions of success rather than friendly casualties; subterranean infrastructure defied Israeli air-strike efforts; armour and active protection systems proved their value yet forces still required significant artillery support; and that the conflict highlighted the limits of precision fire-power in dense urban terrain. The paper reinforces the importance of gaining situational awareness in the middle-eastern city, but stresses how difficult this is. This is a highly-readable synthesis of research and interviews which will be of interest to those in the strategic and operational domains. A brief of this paper is available at [here](#).

Keywords: strategy, operations, tactical, information operations, ihl, israel/palestine, gaza

### Rethinking Operation Protective Edge

Shamir, The 2014 Gaza War: Rethinking Operation Protective Edge, *Middle East Quarterly*, 2015.

Click [here](#) for the complete article

**The aftermath of the 'far from conclusive' 2014 Israeli incursion into Gaza is analysed in this 12-page journal paper, focussing on operational lessons and strategic implications.** Writing for a US audience, the author presents a background to the invasion and a narrative to highlight military lessons: that stand-off capability alone is not enough for a decisive outcome; the necessity to employ ground troops versus an adaptable enemy; that joint response and considered doctrine are required to deal with tunnels and underground infrastructure; and the need to find balance when providing intel to tactical commanders. Strategic challenges are outlined including: that this poor showing against Israel's weakest enemy will not

go unnoticed in the region; and that Israel again lost the media and diplomatic battle. This is an informative and accessible account of the operation, which highlight strategic and political lessons applicable to military interventions generally, particularly in considerations of designing a force structure that may need to fight in dense urban space, against an insurgent or conventional force, lessons around heavy armour, active protection, and effective dissemination of intelligence.

Keywords: political, strategy, operations, israel/palestine, gaza

### **The Combat Performance of Hamas in the Gaza War of 2014**

White, The Combat Performance of Hamas in the Gaza War of 2014, *CTC Sentinel*, Combating Terrorism Center, 2014.

Click [here](#) for the complete article

**The operational effectiveness of Hamas during the 2014 Israeli incursion into Gaza is analysed in this 5-page journal paper, which notes clear improvement since 2009 and identifies Hamas as a learning organisation whose evolution presents severe challenges to the IDF.** Writing for a US policy audience, the author pinpoints improvements in: the number and range of rockets; the protection of military infrastructure; offensive and defensive tunnel systems; and in the increased cohesion and effectiveness of ground forces. The paper explores the Hamas operating concept using examples from the conflict, and summarises what lessons Hamas will take from this latest war: the effectiveness of fighting from the population and adapting tactics away from Israeli strengths, and the need for anti-aircraft and anti-tank defences. The author concludes that the relative success of the 2014 operating concept will see it refined and repeated in future conflict.

Keywords: operations, tactical, israel/palestine, gaza

### **Lessons of Operation Protective Edge**

Kurz & Brom (Eds), The Lessons of Operation Protective Edge, Institute for National Security Studies, Israel, 2012.

Click [here](#) for the complete article

**This compilation of 27 papers seeks to present an analytical picture of the 2014 IDF incursion into Gaza - Protective Edge - and explore the ramifications of the campaign for Israel, covering military, civilian, political, and strategic aspects.** Assembled by an Israeli think-tank affiliated with Tel Aviv University, this collection of essays is aimed primarily at the domestic audience.

Keywords: political, policy, strategy, operations, information operations, civil-military, israel/palestine, gaza

### **Breaking the Silence: Soldiers Testimonies from Operation Cast Lead**

Breaking the Silence: Soldiers Testimonies from Operation Cast Lead, *Breaking the Silence Organisation*, 2009.

Click [here](#) for the complete article

**Testimonials from Israeli combatants in the 2009 assault into Gaza are presented in a Q&A format in this 113-page paper, which contests the official/media narrative and argues that the recollections attest to a moral deterioration in the IDF and Israeli society.** A product of veterans' organisation Breaking the Silence, the paper seeks to stimulate public debate about the moral price being paid for occupation and contends that failure in the application of values is at a systemic level rather than the 'bad apple' rationalisation offered by the IDF. Participants discuss: human shields, house demolitions, ROE, general atmosphere of ops, bombardment, white-phosphorous, briefings, home searches, vandalism, looting, and the presence of religious rabbinic units on the battlefield. Whilst the conclusions drawn are contested by official and Zionist groups, there is no argument that these interviews offer insights into the

nature of warfare amongst populations and the experience of soldiers in the urban environment. As the depositions are anonymous, their veracity cannot be determined. These are heartfelt statements that will be a valuable resource to military leaders as they reflect on their own organisation's values.

Keywords: tactical, civil-military, ihl, bombardment, demolition, bulldozers, wp munitions, israel/palestine

### **The Israeli Arsenal Deployed Against Gaza During Operation Cast Lead**

Esposito, The Israeli Arsenal Deployed Against Gaza During Operation Cast Lead, *Journal of Palestine Studies*, 2009.

Click [here](#) for access. Also available from informal sources online

**The weapons and equipment employed by Israel in its 2008-2009 attack into Gaza are detailed in this 17-page journal article, which flags specific ordnance for IHL concerns.** The paper provides a quick overview of the phases of the operations, and details the features and usage of a range of hardware including: weapons platforms, standard personal and company weapons, unmanned systems including UAV and remote operated pill-boxes, bunker-busting ordnance, breaching and mine clearance systems, and anti-personnel munitions. Humanitarian concerns are raised regarding the Israeli employment of white phosphorous in an urban environment, and the use of Gaza as a testing ground for new technologies.

Keywords: ihl, he breaching, bulldozers, dumb bombs, guided bombs, guided projectiles, hedp projectiles, ebt projectiles, wp munitions, rws, uav, israel/palestine, gaza

## **West Bank**

### **City Resilience Amid Modern Urban Warfare: The Case of Nablus, Palestine**

Kittana, City Resilience Amid Modern Urban Warfare: The Case of Nablus, Palestine, International Planning History Society, 2016.

Click [here](#) for the complete article

**This 10-page conference paper for an urban planning audience examines whether city fabric and architecture influence urban resilience and the coping capacity of non-combatants.**

The author presents the case study of Nablus, Palestine, and describes the planning history and characteristics of the Old Town and the 20th Century urban sprawl of the modern city. Next, the paper examines how the population accesses essentials for survival under Israeli curfew and incursion, exploring concepts of invisibility of movement, proximity of services, internal permeability, and depth of neighbourhood. The author concludes that differing city tissue offers differing support to social survival, and that the Old City can survive conflict and remain functioning longer than the modern. This is an interesting contrast of two adjoining yet dissimilar urban terrains and an enlightening illustration of non-combatant life in an operational area, which will be of interest to the operational planner and trainer.

Keywords: concepts, civil-military, israel/palestine

## **Lethal Theory**

Weizman, Lethal Theory, Durham *University*, 2006.

Click [here](#) for the complete article

**An architect explores the theoretical underpinnings of contemporary military thought regarding cities by focusing on the IDF 'walking through walls' operation into Nablus 2002.** Utilising interviews with the Israeli ground commander and the director of the IDF Operational Theory Research Institute, the author finds an appropriation of architectural and social theories to position the city as not site, but now 'the medium of warfare'. This is an influential essay offering interdisciplinary insights, and cautions that the consequences for

urban operations 'may go beyond physical and social destruction'. The main value of this article is outlining how academic rigor, through critical theory, can break established conceptions and result in novel solutions to problems leading to more successful outcomes. For militaries, as change resistant organizations this can be a valuable lesson.

Keywords: theory, tactical, civil-military, israel/palestine, nablus

### **Walking Through Walls: The Invisible War**

Bleibeh, *Walking Through Walls: The Invisible War*, *Space and Culture*, 2014.

Click [here](#) for the complete article

**This social-science journal paper explores the human consequences of the Israeli 'walking through walls' tactic, and offers insights into the community response to this 'invisible urban warfare'.**

The 16-page paper reviews the Israeli incursion into Nablus (2002), describes the methodology used, and presents a synthesis of forty interviews conducted with impacted civilians. This is a challenging read for the non-specialist, but the respondent quotes are powerful and direct, and will offer insights of utility to the trainer.

Keywords: theory, infantry tactics, civil-military, ihl, israel/palestine

### **Lessons in Urbicide**

Graham, *Lessons in Urbicide*, *New Left Review*, 2003.

Available by subscription [here](#) – also via ResearchGate

**The armoured-bulldozer led Israeli destruction of the Jenin refugee camp (2002) is placed within a wider strategic context in this 15-page paper, which identifies an intent to destroy the urban foundations of the proto-Palestinian state.** The author places the Jenin operation within a broader transformation of the landscape which with de-modernisation, restrictions on mobility, and discriminatory building regulations, evidences a systemic approach to urbicide. Motivations for this are considered, and Israeli rhetoric and anti-urban conceptualisations explored. The perspectives of geographer Graham provide a different perspective to the often enemy-centric focus of urban warfare literature.

Keywords: policy, strategy, tactical, bulldozers, israel/palestine

### **Urban Warfare and the Lessons of Jenin**

Henkin, *Urban Warfare and the Lessons of Jenin*, *Azure*, 2003.

Click [here](#) for the complete article

**Allegations of civilian massacre by Israeli forces in their attack on Jenin (2002) are refuted in this 35-page paper, which argues instead that the IDF took exceptional effort to preserve civilian life and was a model of restraint.** The author reviews contemporary condemnation of the operation and presents his counter-argument. The nature of city fighting is reviewed to provide context, and three recent cases are considered with a focus on non-combatant harm and its rationalisation - Grozny (1994, 1999), NATO bombing of Kosovo (1999), and Mogadishu (1993). The operation into Jenin is next narrated, with the author highlighting efforts to minimise harm, and drawing casualty comparisons to the cases. Whilst not an objective analysis, the author does not disguise his agenda and uses a strong structure to make his point.

Keywords: policy, operations, ihl, israel/palestine, chechnya, grozny, kosovo, mogadishu, somalia, jenin

## **IRAQ, SYRIA, IRAN, TURKEY, KURDISH AREAS AND AFGHANISTAN**

### **Wider Middle East Operations**

#### **Is Hope More Precious Than Victory? The Failed Peace Process and Urban Warfare in the Kurdish Region of Turkey**

Ercan, Is Hope More Precious Than Victory? The Failed Peace Process and Urban Warfare in the Kurdish Region of Turkey, *South Atlantic Quarterly* 118, No. 1 (2019): 111-127.

Click [here](#) for the complete article

**The strategic and policy implications of the Turkish/Kurdish armed conflict are explored in this 17-page essay, which predicts a drift towards authoritarianism for the Turkish state as it pursues an anti-Kurd colonial agenda in northern Syria.** The author identifies the ongoing conflict as a failure of the generally successful post-cold-war 'liberal peace paradigm', and explores reasons for the conflict's low profile in world affairs. The paper charts the course of the conflict through Kurdish strategic successes in expanding and mobilising the separatist movement (2004-2013), the failed peace process of 2014-15, and the rapid escalation in Turkish counter-insurgency response (2015 to present). Of particular interest are the urban operations of 2015 - forced civilian evacuation, aggressive territorial domination, and the application of exemplary physical and humanitarian trauma - which are described as tactically successful yet characterised by widespread destruction and gross human rights violations.

Keywords: political, policy, strategy, syria, turkey, kurdish

#### **The Eye of the Storm: Cities in the Vortex of Afghanistan's Civil Wars**

Giustozzi, The Eye of the Storm: Cities in the Vortex of Afghanistan's Civil Wars, *Crisis States Research Centre*, 2009.

Click [here](#) for the complete article

#### **Afghanistan's relationship between the rural and the urban - and the role of local warlords and their armed retainues - are investigated in this 27-page fragile state working paper.**

Charting the history of Afghan city-country tensions since nationhood in 1747, the author contextualises the fragmented nature of statehood amidst the Russian and US invasions, and illuminates a period where cities were occupied by primarily rural, nonstate, indigenous armed groups. This paper offers an informative historical narrative and an urban perspective to the conflict in Afghanistan.

Keywords: political, policy, concepts, afghanistan

#### **People Make the City, Executive Summary: Joint Urban Operations Observations and Insights from Afghanistan and Iraq**

Glenn et al, People make the City, Executive Summary: Joint Urban Operations Observations and Insights from Afghanistan and Iraq, *RAND*, 2007.

Click [here](#) for the complete article

**US coalition operations in Iraq and Afghanistan are analysed in this 86-page monograph to garner insights for joint urban operations doctrine and future operations.** The paper is an executive summary of a more extensive, classified report, and offers a condensed overview of considerations and conclusions. Three overarching observations are made: that the 3-block war model is a realistic representation of these operations, presenting a 'planning challenge and resource allocation nightmare'; orchestrating inter-agency activities is fundamental to success; and that urban operations increasingly characterise US coalition undertakings. The authors list 25 key insights, organised under a USECT structure, which are presented as dot-points and elaborated later in the document. Primarily concerned

with the operational/policy levels, this paper offers clear observations and recommendations and is well illustrated with snappy quotes from interviewees and the wider literature.

Keywords: policy, strategy, concepts, doctrine, operations, civil-military, iraq, afghanistan

## **Wider Iraq Operations**

### **The US Army in Kirkuk: Governance Operations on the Fault Lines of Iraqi Society 2003-2009**

Connors, *The US Army in Kirkuk: Governance Operations on the Fault Lines of Iraqi Society 2003-2009*, *Combat Studies Institute Press*, US Army Combined Arms Center, 2011.

Click [here](#) for the complete article

**US Army approaches to establishing security and representative governance in the Iraqi city of Kirkuk 2003-2009 are detailed in this 130-page occasional paper.** The paper describes Kirkuk, its history and ethnic tensions, and recounts the initiatives of rotating US units as they grapple with the challenges of governance operations, a role they were not trained or prepared for. The topic is examined chronologically, and seeks to incorporate inter-agency contributions - reconstruction teams, JAG, NGOs, the UN, and the emerging Iraqi government. The author draws a range of key insights including: the imperative to be mindful of over-arching strategic considerations; the essential role of information operations; to focus on providing security, authority, and the rule of law; and the necessity of partnering with indigenous security and governance actors. This is an informative yet disappointingly un-critical analysis.

Keywords: political, strategy, operations, information operations, civil-military, iraq, kirkuk

### **MOUT in Iraq: Population Dependent?**

Thomas, *MOUT in Iraq: Population Dependent?*, *Foreign Military Studies Office*, 2002.

Click [here](#) for the complete article

### **On the eve of the US invasion of Iraq, this prescient 8-page analysis for the US Army Foreign Military Studies Office considers the likelihood and severity of urban combat.**

The paper summarises recent, disparate views on whether Iraqis will fight or not, and reviews the characteristics of Baghdad which make it beyond the scale of recent urban combat, in size and complexity. Insights into the Iraqi approach to city-fighting are garnered from a review of the limited reports of the battle of Khorramshahr (1980). The author cautions about the prospect of factional fighting filling the post-Saddam power vacuum and concludes that success in Baghdad will come down to the way the population responds to the presence of coalition troops.

Keywords: operations, chechnya iraq, baghdad, grozny, khorramshahr

## **Baghdad and Sadr City**

### **The US Army and the Battle for Baghdad: Lessons Learned - and Still to Be Learned**

Johnson et al, *The US Army and the Battle for Baghdad: Lessons learned - and still to Be Learned*, *RAND*, 2019.

Click [here](#) for the complete article

### **The US occupation of Baghdad - from planning through to withdrawal - is analysed in this 319-page research report for the US Army, focussing at the operational and policy levels.**

The paper presents a chronological overview of the operation, and derives lessons from the decisions and assumptions made by civilian and military leaders. Overarching takeaways include: the imperative to plan for long-term stability; the imperative for realistic assessment of military capability and capacity; the critical role of professional military education to prepare leaders for complex operations; and considerations for

creating, training, and advising self-sufficient indigenous security forces. The authors acknowledge that while tactical units tended to adapt, the absence of a strategic/doctrinal framework impaired linkages to policy objectives. This would be of interest to military commanders, educators and doctrine writers.

Keywords: political, policy, strategy, concepts, operations, civil-military, iraq, baghdad

### **Future Megacity Operations: Lessons from Sadr City**

Bowers, Future Megacity Operations: Lessons from Sadr City, *Military Review*, 2015.

Click [here](#) for the complete article

**This 9-page US military journal article describes the operating environment in Sadr City, Baghdad 2004-2008, and draws lessons from US military involvement which may be applicable to megacity operations.** The paper gives an overview of the physical, social, and alternate governance situation, and provides a concise summary of US operations during the period. The author draws insights including: the critical role of armoured vehicles; the reality that traditional force/population ratios are unachievable; and the key role of governance, making it essential to foster credible indigenous participation and security. This is a concise summary which will be of interest to military commanders and strategic planners.

Keywords: operations, civil-military, iraq, baghdad, sadr city

### **The 2008 Battle of Sadr City: Reimagining Urban Combat**

Johnson et al, The 2008 Battle of Sadr City: Reimagining Urban Combat, *RAND*, 2013.

Click [here](#) for the complete article

**This 167-page report for the US Army recounts the battle of Sadr City (Baghdad, 2008) and analyses the success for lessons-learned and insights to inform future urban counter-insurgency campaigns.** The paper provides an overview of the context, terrain, and adversaries before detailing the battle where - through extensive interviews - the authors endeavour to provide an account of not only what happened, but the thoughts and rationale behind operational concepts and decisions. Lessons identified and discussed include: the utility of armour, snipers, and the integration of special forces; retaining the initiative through persistent ISR and isolation of the enemy; and the indispensability of effective indigenous security forces for entrenching an enduring success. The battle is held up as an alternative to the siege-and-storm model of Fallujah and Grozny. This is a solid, readable overview of the action although - as acknowledged by the authors - largely limited to the perspective of US combatants.

Keywords: operations, operations, intelligence support, civil-military, afv, tanks, sharpshooting/sniping, uav, iraq, baghdad, sadr city

### **Urban Warfare: The 2008 Battle for Sadr City**

Sollinger, Urban Warfare: The 2008 Battle for Sadr City, *RAND*, 2012.

Click [here](#) for the complete article

**This concise brief presents the main takeaways from US operations in Sadr City (Baghdad), 2008.** The 2-page paper recounts the situation, concept of operation, and outcome of the battle and highlights 3 lessons learned: the wide area security mission model appears preferable to the take-and-clear concept; decision making needs to be decentralised to enable quick response to a fleeting urban enemy, with information and assets available at or below the battalion level; and the key contribution of tanks and armoured fighting vehicles. This is a quick and useful starter to orient the reader for more detailed papers.

Keywords: operations, iraq, baghdad, sadr city

### **Sadr City: The Armor Pure Assault in Urban Terrain**

Moore, Sadr City: The Armor Pure Assault in Urban Terrain, *Armor*, 2004.

Click [here](#) for the complete article

**A tank commander recounts a contested armoured thrust into Sadr City (Baghdad, 2004) to retrieve an isolated infantry platoon, and offers insights from the experience in this 8-page US military journal article.** The personal account details the tactical considerations and actions of the authors and his troop, and highlights observations including: the requirement for flexibility in radio nets in order to cope with the high tempo of urban action; the benefits to fighting open hatch when unsupported by infantry; the suggestion to have commanders up front in formation; and reflections on employment of different weapons systems to minimise collateral damage. This is a concise, tactical level glimpse of armour in the urban fight which may be of interest to small team leaders and their trainers and armoured forces.

Keywords: tactical, armour tactics, tanks, heat projectiles, rpg, iraq, sadr city

### **The Fight for Kufa: Task Force 2-37 Armor Defeats Al-Sadr's Militia**

Walsh, The Fight for Kufa: Task Force 2-37 Armor Defeats Al-Sadr's Militia, *Armor*, 2004.

Click [here](#) for the complete article

**The 4-day US attack on isolated enemy resistance clustered around the central mosque in Kufa (Iraq, 2004) is narrated by the battalion XO in this 4-page article.** Writing for the US armour corps magazine, the author introduces task force operations in Najaf/Kufa with a brief overview of situation and concept of operations, and then details this final operation which includes clearance of enemy mortar positions, reduction of prepared defences, and repelling a counter attack. This is a quick overview of this lesser-reported battle, and may be a scenario of interest to the trainer.

Keywords: operations, tactical, combined-arms tactics, armour tactics, afv employment, tanks, iraq, kufa, najaf

### **Can the US Avoid Urban Combat in Baghdad?**

Whittle, Can the US Avoid Urban Combat in Baghdad?, *US Army Command and General Staff College*, 2003.

Click [here](#) for the complete article

**The feasibility of taking Baghdad by the indirect approach proposed by Robert Scales is tested in this 48-page staff college monograph, which utilises course of action analysis to determine if such an approach would result in the desired US end-state.** Writing for the US military on the eve of the invasion of Iraq, the author articulates the approach, and draws from it critical concepts for analysis - ISR, isolation, infrastructure and public services control, info-ops, population displacement, and time. The paper concludes that the method would not be effective for a range of reasons including: political and humanitarian pressure making sustainment of a prolonged siege unlikely; ISR capability in such a city not capable of supporting the approach; the low possibility of the siege triggering revolution or coup; and the strategic danger of sowing hatred for the US amongst the people of Baghdad and wider community. This is a well-researched and clearly presented application of Scales' model which illuminates critical issues for urban operations in general, and will be of interest to the planner and writer of doctrine. Robert Scales' proposal of the indirect approach referred to is available at: <https://apps.dtic.mil/dtic/tr/fulltext/u2/a399275.pdf>.

Keywords: political, strategy, operations, information operations, isolation, iraq, baghdad

## Mosul and Environs

### The Mosul Study Group and the Lessons of the Battle of Mosul

Fox, The Mosul Study Group and the Lessons of the Battle of Mosul, *Association of the US Army*, 2020.

Click [here](#) for the complete article

**A serving US officer critiques the Training and Doctrine Command's lessons-learned report on the battle of Mosul (2016-2017), and identifies urban warfare trends in this 19-page military journal article.** The paper dismisses the TRADOC report as hasty and self-affirming, and discusses four aspects of the battle which are considered under-examined: the recurrence of non-state actors massing for large scale extended battles; contemporary urban combat characterised by positional battles of attrition; the fighting of conventional armed conflict by proxy forces; and the underwhelming performance of precision munitions in killing enemy or reducing collateral damage. This is a readable, confident paper which ties theory to lessons-learned, and will be of interest to intelligence staff, ground combatants, commanders and writers of doctrine.

Keywords: theory, concepts, operations, targeting, iraq, mosul

### Five Operational Lessons from the Battle for Mosul

Arnold & Fiore, Five Operational Lessons from the Battle for Mosul, *Military Review*, 2019.

Click [here](#) for the complete article

**Key lessons of the battle to liberate Mosul from IS militants (2016-17) are identified in this 16-page US military journal article, and implications for future operations are discussed.** The authors distil five key observations from the conflict: the impossibility of isolating the modern city; that difficulty increases with depth and duration of the battle; that attackers lose the initiative once they enter the city; the dense urban terrain enhances sustainment; and operational reach is proportional to population support. These points are explained, extrapolated, illustrated with historical vignettes and graphics, and the authors adapt them as considerations for future campaigns. This is a confident, clear piece which could be of interest to military commanders and logisticians.

Keywords: concepts, operations, civil-military, iraq, mosul

### Defeat by Annihilation: Mobility and Attrition in the Islamic State's Defense of Mosul

Knights & Mello, Defeat by Annihilation: Mobility and Attrition in the Islamic State's Defense of Mosul, *CTC Sentinel, Combating Terrorism Center*, 2017.

Click [here](#) for the complete article

**The tactics employed by ISIS in its defence of East Mosul (Oct 2016-Jan 2017) are analysed in this 7-page journal article.** Writing for a western military audience, the authors review the changing tactics employed as the defence moved from the rural fringe, through a prepared defensive ring, and into the denser inner city. Particular attention is paid to innovative use of commercial drones in recon and attack, and the employment of vehicle-borne IEDs to engage conventional forces. Written while the battle continues for the western half of Mosul, the paper paints a picture of a flexible and responsive defence actively exploiting the urban environment. This is an engaging paper with insights of interest to the military planner and trainer.

Keywords: tactical, infantry tactics, civil-military, infiltration, strongpoint defence, mobile defence, mouse holing, guided projectiles, uav, counter uav, iraq, mosul

### **What the Battle for Mosul Teaches the Force**

What the Battle for Mosul Teaches the Force, *Mosul Study Group, US Army Doctrine and Training Command*, 2017.

Click [here](#) for the complete article

**This 75-page publication examines the US contribution to the battle for Mosul (2016-2017) and looks to extract lessons and insights to enhance future performance.** Produced only 45 days after the end of hostilities, the paper offers a quick historical overview of the conflict and a short narrative of the 9-month battle, at the operational level. Initial lessons-learned are presented in paragraphs, and appendices detail: general urban combat considerations, working with proxy forces, joint fire observations, and 'multi-domain battle against hybrid adversaries'. Mainly focused on the US contribution - advising, fire support, and ISR - the paper presents a broad, sanitised, and unconvincing report of the conflict couched with references to 'inefficiencies' and 'not optimal' situations which are not adequately explained or explored.

Keywords: operations, intelligence support, targeting, artillery employment, civil-military, bombardment, direct fs, guided bombs, guided projectiles, uav, iraq, mosul

### **Factors Behind the Fall of Mosul to ISIL (Daesh) in 2014**

Strachan, Factors Behind the Fall of Mosul to ISIL (Daesh) in 2014, *Institute of Development Studies*, 2017.

Click [here](#) for the complete article

**This 8-page UK government briefing paper researches the factors behind the take-over of Mosul by ISIL (ISIS) militia in June 2014, and their eviction of Iraqi troops from the city.** The paper identifies failures of US occupation planning and a corrupt and flawed Iraqi political system as general factors, and the suppression of the Sunni community and ineptitude of Iraqi forces as proximal ones. This is a quick, concise summary of general interest.

Keywords: political, policy, strategy, civil-military, iraq, mosul

### **Adaptation and Innovation with an Urban Twist: Changes to Suicide Tactics in the Battle for Mosul**

Whiteside & Mironova, Adaptation and Innovation with an Urban Twist: Changes to Suicide Tactics in the Battle for Mosul, *Military Review*, 2017.

Click [here](#) for the complete article

**A shift from suicide bombing to drone-borne IEDs is envisaged in this 8-page military journal article, which scrutinises the logistic and sustainment complexities of 'industrial' scale suicide bombing in Mosul (2016-17).** The paper reviews the developing tactics and targets of regional suicide bombing post the US invasion of Iraq, and examines the difficulties in recruiting (or coercing) effective bombers. IS technical innovations in vehicle-borne IEDs and drones are identified as compensations for manpower shortage, and the authors argue that once the drone shortcomings of limited supply and small payload have been addressed, these 'guided missiles' will displace suicide bombing on the battlefield.

Keywords: concepts, tactical, uav, ied, iraq, mosul

### **The Enemy Within: ISIS and the Conquest of Mosul**

Abdulrazaq & Stansfield, The Enemy Within: ISIS and the Conquest of Mosul, *The Middle East Journal*, 2016.

Click [here](#) for the complete article

**This 18-page journal paper examines the human perspective of the seizure of Mosul in 2014, where an Iraqi division was routed in three days by a fewer than a thousand militia fighters.**

Utilising perspectives gleaned from interviews and questionnaires, the paper follows the fate of the city from the US invasion of 2003, through the rise of ISIS in Iraq, and until after the conquest of the city. The authors argue that the rise of extremism became inevitable when political failures marginalised significant segments of the population, and that ISIS was able to harness this disaffection by presenting as useful in a fight against oppression. This is a readable narrative of the city's trials, enlivened with eyewitness quotes and insights.

Keywords: political, policy, strategy, civil-military, iraq, mosul

### **Military Operations in the Gulf War: The Battle of Khorramshahr**

McLaurin, Military Operations in the Gulf War: The Battle of Khorramshahr, *US Army Human Engineering Laboratory*, 1982.

Click [here](#) for the complete article

**The 1980 battle for Khorramshahr in the Iran/Iraq war is described in this 46-page research paper, which offers an overview of the conflict as a whole and a contemporary perspective on the battle in particular.** Writing to inform US Army MOUT practice, the author fuses eyewitness interviews and questionnaires with analysis of media reports to describe the attack, where an armour-heavy reinforced Iraqi division was delayed for a month by 3000 isolated militia fighters defending Iran's principle commercial port. The paper discusses what weapon/tactical/C3 lessons can be drawn, and presents the battle as an example of how a built-up-area can become a potent strategic weapon in the hands of determined defenders.

Keywords: operations, tactical, khorramshahr, key-point defence

### **ISIL's Territorial Logic of Urban Control in Mosul and ar-Raqqah : City as a System Analytical Framework**

Jensen et al (Eds), ISIL's territorial logic of urban control in Mosul and ar-Raqqah : City as a System Analytical Framework, Simpson, Complex Terrain: Megacities and the Changing Character of Urban Combat, *Marine Corps University Press*, 2019.

Click [here](#) for the complete article

**ISIL strategy to foster high military and economic mobility within its territories is examined in this 17-page paper, which explores its tactical benefits and implications for military resilience and political legitimacy.** The paper identifies two environmental COG for ISIL - rapid, responsive flows of military force to sustain a multi-front war and fuel further offensive operations through the seizure of supplies, and the facilitation of internal trade within and between controlled territories. The author concludes that the robustness of this model insulates ISIL from losses of specific territory and increases resilience against the isolate/besiege/assault tactics of its adversaries.

Keywords: strategy, iraq, syria, mosul, ar-raqqah

## **Fallujah**

### **The Battles of Al-Fallujah: Urban Warfare and the Growth of Air Power**

Head, The Battles of Al-Fallujah: Urban Warfare and the Growth of Airpower, *Air Power History*, 2010.

Click [here](#) for the complete article

**This 21-page military journal article offers an excellent general overview of the conflict in Fallujah before examining the employment of air-power and arguing that its use in this case has 'altered the very theory of how to execute urban battles'.** The author presents the case chronologically, before exploring its legacy both on the ground and in relation to airpower. The role of the fixed wing gunship -

specifically the AC30s - is considered, and controversy over the use of white phosphorous is analysed. This is a confident, persuasive paper which informs as it argues the transformative effect of persistent aerial ISR teamed with on-call strike aircraft in the urban battlespace.

Keywords: political, operations, overwatch, direct fs, wp munitions, iraq, fallujah

### **Grunts in the City: Urban Combat and Politics - Fallujah 2004**

McManus, Grunts in the City: Urban Combat and Politics - Fallujah 2004, Grunts: Inside the American Infantry Combat Experience, World War II Through Iraq, 2010.

Click [here](#) for the complete article

**This 61-page chapter from Grunts: Inside the American Infantry Combat Experience, World War II Through Iraq paints the picture of the US infantryman on the urban battlefield.** The author - academic and US Army historian John McManus - offers a brief overview of the strategic and operational situation before following the riflemen through the 1st and 2nd battles of Fallujah (2004). This is an exposition which combines direct quotes, vignettes, and author insights to highlight the human dimension, rather than an account of the battle itself, and has been favourably reviewed for its depth of research and engaging writing style. The author contrasts an interservice and combined arms tactical success with political/strategic shortcomings, and provides a visceral, on-the-ground experience of urban combat.

Keywords: political, operations, tactical, combined-arms tactics, infantry tactics, cqb, iraq, fallujah

### **The Battle of Fallujah: November 2004**

Kilgore, The Battle of Fallujah: November 2004, *Infantry*, 2009.

Click [here](#) for the complete article

**A cavalry platoon commander recounts his experience in the second battle of Fallujah (November, 2004) in this frank and informative 6-page article for the US infantry corps magazine.** The author narrates the build up to the operations, preparation, assembly, and then the missions which his platoon undertook. Aspects include mounted and dismounted combat, casualties, taking prisoners, and experiences of PTSD subsequent to the operation. This is a personal and frank blow-by-blow account of the reality of urban combat at the tactical level, and will be a useful resource for armoured corps personnel.

Keywords: tactical, combined-arms tactics, infantry tactics, armour tactics, afv employment, rpg, uav, iraq, fallujah

### **The Battle of Fallujah: Lessons Learned on Military Operations on Urbanized Terrain (MOUT) in the 21st Century**

The Battle of Fallujah: Lessons learned on MOUT in the 21st Century, Chang, Journal of Undergraduate Research, 2007.

Click [here](#) for the complete article

**This 8-page undergraduate paper is a general primer on US operations in Fallujah, providing an overview of both battles (Apr 2004, Nov 2004) and offering observations on combined arms tactics and civil-affairs in COIN.** Writing for the US military, the author briefly charts the evolution of modern urban warfare, and introduces Fallujah and its situation following the 2003 US invasion. An operational overview of both battles is offered and insights drawn including: tank/infantry cooperation; and the battle for hearts, minds, and the media narrative. This is a concise, if uncritical, overview which will be of interest to the trainer.

Keywords: operations, information operations, combined-arms tactics, infantry tactics, civil-military, iraq, fallujah

### **Fear and Loathing in Falluja**

Hills, Fear and Loathing in Falluja, *Armed Force 7 Society*, 32, No 4 (2006), P1-17.

Click [here](#) for the complete article (or via Researchgate)

**This 17-page journal article explores why the US finds it so difficult to succeed in low intensity conflict despite overwhelming military might, and draws on Fallujah 1 (April 2004) to demonstrate that the failure is in understanding the utility of military power.** Writing for a western military audience, the author presents an overview of Fallujah 1, highlighting links between aspects of power and power relations to explain its evolution. Government and military cultures and the US tendency toward faith in transformative tech solutions are explored to explain this 'strategic dysfunction'. The paper concludes that the US belief that power can be exercised separate of relationships is a strategic vulnerability, and that developing patterns in Iraq suggest Fallujah as a paradigmatic case for the misapplication of force in COIN. This is a conceptually rich piece from an influential commentator, which will be of interest to military commanders.

Keywords: political, policy, strategy, iraq, fallujah

### **Eyewitness to War: The US Army in Operation Al Fajr: An Oral History**

Gott (Ed), *Eyewitness to War: The US Army in Operation Al Fajr: An Oral History*, CSI, 2006.

Click [here](#) for Volume 1

Click [here](#) for Volume 2

**The US Army experience in the 2nd Battle of Fallujah (November 2004) is documented in this oral history project which interviews 37 participants from a range of ranks, combat arms, and combat support roles.** The 657-page project (across two volumes) sets the context with a battle overview from the editor, and presents the interviews in order of rank. There are some frank insights and illustrative vignettes here which will be of use to the trainer.

Keywords: intelligence support, information operations, combined-arms tactics, targeting, infantry tactics, armour tactics, artillery employment, medical support, iraq, fallujah

### **Signalling Resolve: Democratization, and the First Battle of Fallujah**

Malkasian, Signaling resolve, democratization, and the first battle of Fallujah, *Journal of Strategic Studies*, 2006.

Click [here](#) for the complete article

**The strategic failure of Fallujah 1 (Apr 2004) and its role in generating popular support for the insurgency in Iraq is analysed in this 31-page journal paper, revealing the limitations of using military force to signal resolve.** The paper reviews concepts of signalling resolve in counter-insurgency, and describes the situation in Iraq and the unfolding of events leading to the April 2004 offensive. The operation is outlined, as well as the ensuing Fallujah Brigade initiative. The author concludes with consideration of the role of political cohesion in signalling resolve, arguing that force should be tailored to allow the support of political bodies, even at the expense of rapid action. This is an essential reading on the battle, and a persuasive exposition from an influential analyst.

Keywords: political, policy, strategy, iraq, fallujah

### **Operation AL FAJR: A Study in Army and Marine Corps Joint Operations**

*Operation Al Fajr: A Study in army and marine corps joint Operations*, Matthews, CSI, 2006.

Click [here](#) for the complete article

**Primarily relying on participant interviews, this 96-page occasional paper researches the organisational and cultural interactions of the US Army and Marine Corps as they combined to plan and fight the second battle of Fallujah (2004).** The paper reviews the history of animosity between the services, and provides a narrative of the battle from notification, through joint planning, and then the fight itself. Focussing at the tactical level, the author concludes that the combination proved successful, but does highlight areas for improvement including communications interoperability, and intel sharing friction. This is an interesting human angle on the topic, and is full of quotable insights and observations from troops in the field which may provide engaging content for the trainer.

Keywords: operations, tactical, iraq, fallujah

### **Second Battle of Fallujah: Urban Operations in a New Kind of War**

Second battle of Fallujah: Urban Operations in a new kind of War, Hollis, Field Artillery Journal, 2006.

Via message to US Field Artillery Association USFAA: <https://www.fieldartillery.org/> or Scribd

**The commander of Fallujah 2 (Nov 2004) is interviewed by Field Artillery Journal in this 6-page paper, which focuses on artillery employment and joint fires.** The interview covers the concept of operation, reconstruction, and info-ops, then more specifically: FS, C2 for FS, TTPs for joint fires, targeting, and rocket employment. This is a very light piece without deep reflection or analysis, but may offer a few points of interest.

Keywords: operations, information operations, targeting, artillery employment, ttps, direct fs, artillery-indirect, iraq, fallujah

### **Learning from Fallujah: Lessons Identified 2003-2005**

Learning from Fallujah: Lessons Identified 2003-2005, Peace Direct/Oxford Research Group, 2005.

Click [here](#) for the complete article

**The conflict in Fallujah (2003-2005) is analysed to identify alternative actions which may have proven more effective, and these insights are synthesised into lessons for COIN in this 26-page discussion paper.** Written for a UK policy audience, the paper divides the case into a series of phases, identifying for each a range of counter-options to the paths taken which are explained with topical examples. These alternatives are summarised into specific themes with concrete proposals for how to implement them: addressing inter-religious tensions; opening dialogue to understand the 'enemy' point of view; employing respect over force; modelling fair play; and prioritising reconstruction in consultation with locals. The paper avoids becoming an exercise in hindsight through its contribution of practical suggestions and critical perspective, and may prove an effective discussion starter for group learning.

Keywords: operations, civil-military, policing, iraq, fallujah

### **Fallujah and the Reality of War**

Mahajan, 'Fallujah and the Reality of War', Global Policy Forum, 2004. Mahajan, Fallujah and the Reality of War, Global Policy Forum, 2004.

Click [here](#) for the complete article

**On the eve of Fallujah 2 (Nov 2004), a correspondent present during Fallujah 1 (April 2004) reflects on his experience amongst the non-combatant population in order to condemn similar operations.**

The author - an American correspondent unapologetically opposed to the US presence in Iraq - offers a word picture of the civilian experience through isolation, bombardment and combat. This is a brief, spirited piece which does not hide its agenda and draws attention to the experience of a population during urban combat.

Keywords: iraq, fallujah

### **New Found Respect – A Combat Correspondent’s Tale of the Battle for Fallujah**

Newfound Respect: A Combat correspondent’s tale of the battle for Fallujah, Firstbrook, Marines, 2004.

Click [here](#) for the complete article

**This short article is a personal account from a USMC correspondent embedded with infantry for the 2nd battle for Fallujah (Nov 2004).** Whilst very brief, and intended more for internal USMC morale than a general readership, the reflections on fear, confusion, and camaraderie are frank and heartfelt and may be of use to the trainer.

Keywords: iraq, fallujah

### **The Battle for Fallujah: The Underlying Military Issues**

The Battle of Fallujah: The Underlying military Issues, Cordesman, CSIS, 2004.

Click [here](#) for the complete article

**On the eve of the second battle of Fallujah, this 3-page article considers how the tactical battle may unfold and flags broader, post-battle operational concerns.** The paper is confident of US tactical success - citing preparation, tech and training as superior - and pinpoints insurgent vulnerabilities as low numbers and density, and a lack of cohesion. The author predicts collateral damage will be manageable, but stresses that stability ops and nation building will be critical to winning the ‘battle after the battle’.

Keywords: concepts, iraq, fallujah

### **Fallujah Objectives: What Meaningful “Victory” Really Means**

Cordesman, The Fallujah Objectives: What Meaningful “Victory” Really Means, Oxford Research Group, 2004.

Click [here](#) for the complete article

**On the eve of Fallujah 2 (Nov 2004) a US analyst outlines operational and policy objectives which are required to avoid the US suffering the ‘Vietnam syndrome’ - tactical victory rendered irrelevant by strategic failure.** The author stipulates seven crucial points encompassing: restrained conduct of the battle in the face of hostile media; a credible performance by the Iraqi military; security improvement to avoid ‘no-go’ areas and to enable effective Iraqi governance, aid, employment and normalcy; and legitimate, inclusive political progress. The paper concludes that unless operations are mindful of these objectives even the most decisive defeat of insurgents in the upcoming battle will be a ‘pointless, bloody mess’. This is a frank, prescient paper contextualising the battle of Fallujah at a strategic level.

Keywords: political, strategy, iraq, fallujah

### **Fallujah and its Aftermath**

Rogers, Fallujah and its Aftermath, *Oxford Research Group*, 2004.

Click [here](#) for complete article

**This 5-page brief from a UK think-tank offers analysis of the strategic impact of Fallujah 2 (Nov 2004) immediately following the battle, and finds that it is not the turning point the US hoped for and that insurgency remains embedded in Iraq.** The paper reviews US political developments before querying the ‘success’ of the assault by considering: an increase in armed attacks across Iraq even as the battle raged; a smaller than expected insurgent force in Fallujah which continues to resist; high US casualties; and widespread condemnation across the middle east in response to civilian casualties and enormous destruction. The paper concludes presciently that the battle was not strategically decisive, but a moment in a conflict which is still in its early stages.

Keywords: political, policy, strategy, iraq, fallujah

### **Remember Fallujah: Demonising Place, Constructing Atrocity**

Graham, Remember Fallujah: Demonising Place, Constructing Atrocity, Society and Space, 2005.

Click [here](#) for the complete article

**Geographer Stephen Graham excoriates developing urban warfare discourse, and presents Fallujah as an exemplar of a paradigm shift in military theory - the dehumanisation of people and the demonisation of place 'so they can be constructed as little more than spaces to absorb US military firepower'.** The paper begins with a recount of the authors introduction to this 'dark world of urban research', and continues with a description of operations in Fallujah to highlight the outcomes of this thinking: the orientalist 'othering' of Arab people and place, the construction of Islamic cities as military targets, and the resultant 'casting out' of these urban areas from 'definitions of humankind or civilisation'. This is a forceful, considered paper from an influential commentator, and offers an interdisciplinary perspective from beyond the military echo-chamber.

Keywords: civil-military, iraq, fallujah

### **Violent Response: The U.S. Army In AL-Falluja**

Bouckaet & Abrahams, Violent Response: The US Army in Al-Falluja, *Human Rights Watch*, 2003.

Click [here](#) for the complete article

**The shootings of protestors in Fallujah by US troops (April 28/April 30, 2003) are investigated in this 31-page report, which challenges assertions of the US military and demands an independent investigation to apportion responsibility for IHL violations.** The investigators interview witnesses from both sides, visit hospitals to ascertain casualty numbers, and conduct a ballistic evidence analysis of the site to suggest an excessive/disproportionate use of force. A general background to US presence in Fallujah is provided, along with a narrative of both incidents. The authors contend that the shootings highlight the dangers of combat troops being deployed in law enforcement roles, and assigns ultimate responsibility to those who placed such forces in a volatile environment without adequate training, translators, or crowd control devices.

Keywords: operations, civil-military, policing, ihl, iraq, fallujah, crowd control, strongpoint defence

## **Syria**

### **The Russian Military's Lessons Learned in Syria**

Clark, The Russian Military's Lessons Learned in Syria, *Institute for the Study of War*, 2021.

Click [here](#) for the complete article

**This 52-page report for a US policy audience analyses the lessons learned by Russia in its deployment to Syria (2015-) and enunciates the strategic implications for the US noting that these lessons are being applied to 'develop into a flexible and effective expeditionary force'.** Drawing on Russian open-source documents, journals, speeches, and analysis, the paper contends the main focus of Russian learning is in optimising C2 - striving to gain 'superiority of management' with unified command and tech modernisation - whilst disrupting enemy C2. Other areas of developing capability are identified as a focus on precision munitions, coalition management, and the utilisation of UAVs. The author notes that, despite this learning curve, Russia still has not developed doctrine or theory for COIN, and whilst acknowledging its importance has yet to develop a unified, consistent approach to urban operations.

Keywords: political, strategy, doctrine, operations, uav, counter uav, russia, syria

### **Russian Lessons Learned in Syria: An Assessment**

Thomas, Russian Lessons Learned in Syria: An Assessment, *MITRE*, 2020.

Click [here](#) for the complete article

**A US analyst scrutinises Russian sources to identify Russian military lessons learned during deployment in Syria allied with regime forces, and concludes that the experience has undoubtedly made Russia a stronger adversary.** Writing for a US policy/military audience, the author synthesises a range of sources to highlight Russian innovations in: the utilisation of special forces; operating with private, mercenary forces; applications of military art; and tactics. The research demonstrates a focus on urban operations, and documents the trialling of a large range of weapons and technologies. This is an accessible investigation of developing Russian capability, with the author concluding that they are 'again a force with which to be reckoned'.

Keywords: tactical, engineer employment, logistics, bulldozers, ugv, uav, counter uav, russia, syria

### **The Battles for Aleppo: A Case Study**

Suddaby, *The Battles for Aleppo: A Case Study*, British Army Review Special Report, *Urban Operations-Volume 1 Winter 2018*, 2018.

Click [here](#) for the complete article, via a British Army Review special report

**The battles for Aleppo 2012-2013 are described in this handy primer, which considers the conflict indicative of future urban operations, and offers insights to inform the British army.** The 13-page journal paper gives a background to the city and its demographics, religions, politics, and myriad protagonists in the conflict. A big-picture overview of regime operations to retake the city from rebel forces is narrated, and observations of doctrine and tactics drawn in dot-point format. The paper concludes with key takeaways: the effectiveness of investment; the need for follow-on forces; the importance of maintaining will and resources; the necessity of adaptive tactics; and the required ability to define an end state and influence the population. This is a readable and concise introduction to the topic which will be of interest to the general reader and the trainer.

Keywords: operations, tactical, syria, Aleppo

### **The Battle for Raqqa and the Challenges After Liberation**

Hassan, *The Battle for Raqqa and the Challenges After Liberation*, *CTC Sentinel*, 2017.

Click [here](#) for the complete article

**On the eve of the storming of Raqqa to liberate it from Islamic State (2017), the author of this 10-page journal paper explains the situation and main players, considers the battle to come, and emphasises the importance of post-operation security and stability planning.** Writing for a US military and policy audience, the author gives a background to Raqqa during the Syrian conflict, and relates the formation and composition of the SDF - the US-backed, Kurd-led coalition undertaking the attack. Predictions for the battle are related to the recent eviction of IS from Mosul (Iraq), conjuring expectations of snipers, suicide bombers, and tunnels. The author concludes with an explication of the tribal and urban/rural dynamics in the city, an understanding of which he argues is essential for post-battle stability. This is a complex topic, clearly explained.

Keywords: political, strategy, operations, Syria, raqqa

### **Combat in Cities: The Chechen Experience in Syria**

Grau et al, *Combat in Cities: The Chechen Experience in Syria*, *Infantry*, 2015.

Click [here](#) for the complete article

**The spread of Chechen military personnel and expertise to anti-government groups in Syria is discussed in this 7-page military journal article, which examines reasons for the diaspora and analysis of the implications.** The authors identify three reasons for the internationalisation of the

Chechen fighter: a cultural history of involvement in conflict outside of the homeland, combined with a warrior ethos and few attractions in civilian life; the influx of foreign influence during the long conflict with Russia; and a broader identification with the Chechen ethos from ethnic groups outside the physical borders. The authors contextualise a first-hand, tactical account by one such fighter in Aleppo (2014) which details ambidextrous shooting, approaching buildings and crossing cleared space, employing smoke, tunnelling, and the mining of buildings. This is a concise piece which works hard to explain complex relationships and linkages, and the tactical insights provided will be interesting to ground combatants and their trainers.

Keywords: tactical, infantry tactics, ttp, smoke grenades, assault rifles, chechnya, iraq, syria, aleppo

## ASIA

### India, Pakistan, Sri Lanka

#### **Military Operations in Urban Areas: The Indian Experience**

Fair, *Military Operations in Urban Areas: The Indian Experience*, *India Review*, 2003.

Click [here](#) for the complete article

**In the absence of formal urban operations doctrine, the author of this 28-page journal article seeks to distil the Indian experience via synthesis of Indian analysis and observations drawn from operations - the Kashmir insurgency, Operation Bluestar in the Punjab insurgency (1984), and Operation Pawan during Sri-Lankan peacekeeping (1987).** The paper provides an overview of regional urbanisation trends and Indian security force structure before drawing findings from the commentary and cases. The author considers Indian forces have developed expertise in population management and Psyops/Info-ops, before concluding that the institutional inability to absorb and promulgate lessons-learned into formal, joint doctrine will hinder effective response to continued terrorist attacks on IT hubs, tourism, and state buildings and leadership. This is an accessible overview of an under-explored military experience which ventures more into intra-state security, national asset protection and management of information operations in a high-population context.

Keywords: psyops, doctrine, tactical, india

#### **Urban Battle Fields of South Asia: Lessons learned from Sri Lanka, India and Pakistan**

Fair, *Urban Battle Fields of South Asia: Lessons learned from Sri Lanka, India and Pakistan*, *RAND*, 2004.

Click [here](#) for the complete article

**The extensive experience of India, Sri Lanka, and Pakistan in combatting sustained terrorist campaigns by urban militants is analysed in this 174-page research paper, which seeks to garner insights of the evolving threat and the effectiveness of state responses.** The paper gives an overview of the conflicts - discussing the force structures, operations, and TTPs of the adversaries - and distils commonalities to inform future operations including: the networked nature of militant forces which exploit the lack of information sharing across agencies and jurisdictions; the crucial role of policing in CT operations, while noting police are consistently undertrained and under-equipped; the difficulty in gaining intel when the population is alienated from the security effort; and that responses are hampered by poor inter-agency co-ordination. This is a comprehensive overview focused at the tactical and operational levels and will be of interest to those with a need to understand nations whose militaries have an internal security role, which is common in Asia, but not usual in Western nations.

Keywords: operations, tactical, intelligence support, information operations, civil-military, policing, india, pakistan, sri lanka

### **Third World Megacities: An Illusion of Control**

Akrama, Jensen et al (Eds), *Third World Megacities: An Illusion of Control, Complex Terrain: Megacities and the Changing Character of Urban Combat*, Marine Corps University Press, 2019.

Click [here](#) for the complete article

**This 41-page paper presents Karachi (Pakistan) as a case study to highlight the challenges for security in a megacity, and a hybrid police/military model is proposed to enhance law and order and anti-terrorism capabilities.** The author - a Pakistani military officer - charts the evolution of violence in Karachi and draws lessons from policing and military operations in the city. The paper concludes that the effective response is a policing one, with military capacity playing a supporting role. An operating model to this effect is outlined, discussing purpose and organisation, and including consideration of C2, Intel, fires, and manoeuvre. This paper presents an informative case and a strong analysis which will be of interest to police and military officials required to delve into internal security functions facing well-armed criminal and insurgent threats.

Keywords: operations, civil-military, policing, pakistan, karachi

### **Vietnam**

#### **Death in the Imperial City: US Marines and the Battle for Hue 31 January to 2 March 1968**

Camp, *Death in the Imperial City: US Marines and the Battle for Hue 31 January to 2 March 1968*, Marine Corps University, 2018.

Click [here](#) for the complete article

**This 84-page commemorative history for the USMC marks the 50th Anniversary of the battle for Hue (1968) and offers a chronological narrative account of the battle.** The author - a retired USMC Colonel - offers a brief description of the city, recounts the dispositions and preparations of the key players, and present a blow-by-blow account of the battle. The nature of this piece dictates an almost exclusive focus on US actions and a less analytical approach, yet it does not shy away from difficult topics such as failures in post-combat planning and USMC looting of the city. Well-illustrated with maps, photos, and panels detailing commendations, this is an accessible overview of the operation which will provide a solid base for further reading.

Keywords: operations, vietnam, hue

#### **A CORDS Advisor Remembers: The 1968 Tet Offensive in Vietnam and the Seizure of Hue**

Lau, *A CORDS Advisor Remembers: The 1968 Tet Offensive in Vietnam and the Seizure of Hue*, *Studies in Intelligence*, 2017.

Click [here](#) for the complete article

**In this 14-page memoir a marine officer living in embassy housing in Hue, 1968, describes his eight days behind enemy lines avoiding capture in the occupied city.** Raymond Lau was working as a CORDS advisor (civil operations and revolutionary development support) overseeing a CIA-sponsored pacification program when the city was attacked on 31 Jan. This paper recounts a confused and desperate succession of firefights, escapes, and the kindness of a local Vietnamese family before the city was retaken. An engaging perspective from inside the city during this major battle, the paper offers a visceral narrative and anecdotes which offer insight into the human experience of urban combat pressures.

Keywords: intelligence support, civil-military, hue, vietnam

### **The 1968 Tet Offensive Battles of Quang Tri City and Hue**

Villard, The 1968 Tet Offensive Battles of Quang Tri City and Hue, *US Army Center of Military History*, 2008.

Click [here](#) for the complete article

**This 89-page monograph from the US Army Centre of Military History recounts the battles for Quang Tri City and Hue (1968), and offers an operational overview from a primarily US perspective.** The paper considers Quang Tri City first - a quick allied victory - and next the grinding, attritional fighting of Hue. Offering insights into the strengths and limitations of air-mobile warfare, this is a readable account illustrated with maps and photographs.

Keywords: operations, vietnam, hue, quang tri city

### **Street Fighting: Lessons Learned from the Battle for Hue for 21st Century Urban Warfare**

O'Neill, Street Fighting: Lessons Learned from the Battle for Hue for 21st Century Urban Warfare, *Louisiana State University*, 2003.

Click [here](#) for the complete article

**This 91-page thesis from a serving artillery officer analyses the battle of Hue (1968) for TTPs and lessons learned to inform tactics and training for future urban combat.** The author presents a chronological overview of the battle, and pinpoints crucial considerations: accurate and timely intel; specific training for urban fighting; enablers - tanks, heavy weapons, explosives, gas smoke and flamethrowers; logistics to the tactical level; frontline casevac and med support; C2 and unity of command; ROE suitable to the situation; and refugee control. The paper argues that training for future combat will have to address all these complexities, and that the emerging requirements for low casualty/low collateral damage operations will require the development of non-lethals to disable threats with minimal force. This is a well-argued analysis of the case study, offering insights at the tactical and operational level.

Keywords: operations, tactical, intelligence support, infantry tactics, civil-military, TTPs, vietnam, hue

### **The Battles of Saigon and Hue: Tet 1968**

Wirtz, The Battles of Saigon and Hue: Tet 1968, *Soldiers in Cities: Military Operations on Urban Terrain*, SSI, 2001.

Click [here](#) for the complete article

**Strategic and operational lessons are drawn from the battles for Hue and Saigon (1968) to inform future urban operations, in this 17-page conference paper for the US military.** The author offers brief strategic overviews of the battles to highlight several points: that MOU varies in intensity; the imperative to isolate the battle; uncertainty over when urban battle will occur - and the implications for force deployment; and the critical nature of a 'very attentive audience, the inhabitants'. The paper concludes that the tactical success/strategic failure paradox of these battles demands that the conduct of urban operations be governed by more than the quest for military victory. Concise and clear, this paper makes points of interest to any audience studying urban operations.

Keywords: strategy, operations, vietnam, hue, saigon

### **The Easter Offensive of 1972**

Truong, The Easter Offensive of 1972, *US Army Centre of Military History*, 1977.

Click [here](#) for the complete article

**In this 191-page monograph a South-Vietnamese Corps commander narrates the operations to counter the North-Vietnamese offensive of Easter 1972, an eight-month operation fought after the withdrawal of US combat troops from Vietnam.** Writing for a US Army history project, the author LtGen Luong offers a summary of operations drawing on personal observations and conversations with other Vietnamese directly involved. The paper includes battles for the cities of Quang Tri, Hue, Kontum, An Loc, and operations in the Mekong Delta. Not intended as a definitive account, the personal nature of this piece allows frank analysis and critique of the strategies and performance of both sides and is a perceptive, readable contribution, from a non-western author.

Keywords: strategy, operations, vietnam

## Philippines

### **The Battle of Marawi: Lessons for Developing Urban Capabilities**

Lewis, The Battle of Marawi: Lessons for Developing Urban Capabilities, *Australian Army Journal*, 2019.

Click [here](#) for the complete article

**The clearance of Marawi by Filipino forces in 2017 is analysed for lessons-learned in this 18-page journal article for the Australian Army.** Drawing primarily on the perspectives of AFP participants and mentoring teams, the author offers a brief overview of the conflict and distils insights including concepts for night fighting, armour, C2, UAVs, CAS, combined arms, breaching, and combat support. The paper applies these insights to suggest improvements to ADF capability in training, organisation and equipment, and emphasises the crucial role of small, empowered, integrated combat teams. Focussed on the tactical level, this is a concise and readable treatment of the topic.

Keywords: tactical, combined-arms tactics, infantry tactics, armour tactics, artillery employment, engineer employment, logistics, combat supplies, medical support, smokeout, direct fs, mouse holing, mg breaching, wall charges, afv employment, bulldozers, uav, philippines, marawi

### **The Marawi Crisis - Urban Conflict and Information Operations**

Knight & Theodorakis, The Marawi Crisis - Urban Conflict and Information Operations, *Australian Strategic Policy Institute*, 2019.

Click [here](#) for the complete article

**This 35-page report drawing insights from the 2017 siege of Marawi is divided into two sections: the first addressing the military implications of conducting operations in the contemporary urban environment, and the second exploring the nature of information operations and the fight for legitimacy in the narrative space.** Writing for an Australian audience the authors provide a background to the crisis before analysing these hard power and soft power battles and their interconnectedness. An operational and tactical overview highlights the unsolved dilemma of urban warfare - force protection is primarily provided by high-firepower which creates unacceptable collateral damage and civilian casualties. Hard power recommendations include a focus on developing unmanned recce and clearance platforms, stand-off breaching weaponry, and civilian-safe obscurants. Soft power narratives are analysed, demonstrating information operations as an essential, rather than supporting, component of such operations, and emphasis is placed on a cultural-intelligence driven understanding of drivers and causes supporting a narrative that has no gap between rhetoric and action.

Keywords: operations, tactical, information operations, civil-military, philippines, marawi

### **Urban Terrorism: The Siege of Marawi City**

Divinagracia, Urban Terrorism: The Siege of Marawi City, *US Army Command and General Staff College*, 2018.

Click [here](#) for the complete article

**This 148-page thesis from a Philippine Army officer identifies urban siege as a new form of terrorism exemplified in the seizure of Marawi, and proposes a model to identify cities vulnerable to these attacks.**

The paper reviews the terrorist groups active in the Philippines and analyses their objectives, ideologies, structures and methods. The operational and urban environmental factors which made Marawi susceptible to this type of attack are scrutinised, and the observations synthesised to profile which type of groups would consider urban siege operations, and which types of cities are most vulnerable. While not concerned with the Marawi operation per se, this paper offers a comprehensive background and considered insights into the conflict. The thesis could be of interest to a broad range of audiences including civil authorities, military and law enforcement planners.

Keywords: theory, concepts, philippines, marawi, coin

### **The Battle for Marawi: Urban Warfare Lessons for the AFP**

Franco, *The Battle for Marawi: Urban Warfare Lessons for the AFP*, *Security Reform Initiative*, 2017.

Click [here](#) for the complete article

**This 6-page security think-tank working paper explores why the current siege in Marawi is of such greater intensity and duration than the 2013 seizure of Zamboanga, and considers implications for the future.**

The author briefly summarises both battles, observing that more defensible terrain exploited by motivated militants with enhanced intel and recce capability has complicated the current operation. The paper concludes that while likelihood of a similar conflict in the near future is low, there is a danger in the dispersion of militant techniques and tactics which have proven effective.

Keywords: tactical, philippines, marawi, policing

### **Marawi: A Game Changer in Terrorism in Asia**

Gunaratna, *Marawi: A Game Changer in Terrorism in Asia*, *Counter Terrorist Trends and Analyses*, 2017.

Click [here](#) for the complete article

**This 5-page journal article analyses the role of Islamic State ideology and leadership in the seizure of the Philippines city of Marawi by jihadists on 23 May, 2017.**

Writing one month into the siege, the author gives background to IS influence in the region, details the narrative disseminated in justification of the seizure, and explores the appeal of IS ideology to local groups. Particular attention is paid to the presence of foreign fighters in Marawi, and the implications of this for regional security.

Keywords: political, strategy, philippines, marawi

### **The Siege of Marawi City: Some Lessons**

Singh & Jani, *The Siege of Marawi City: Some Lessons*, *RSIS Commentary*, 2017.

Click [here](#) for the complete article

**Drawing insights from the continuing siege of Marawi 2017, this 3-page journal paper analyses the strategic objectives of Islamic State in the Philippines and tactical methods being utilised to further IS influence in the region.**

Writing for a regional policy and security audience, the authors identify the rationale driving the seizure of the city - alienating residents from the state, demonstrating state inability to provide security for its citizens, and weakening state resolve to secure peripheral areas. Tactics to these ends are noted: prolonged, destructive urban combat with humanitarian crises of evacuation and displacement; the introduction of suicide bombing; and suggestions of wielding civilians as human shields, and hostages as unwilling bombers. The authors argue that military victory alone will not return the region to peace and stability. This is a concise, clear contribution to understanding the siege.

Keywords: political, strategy, tactical, civil-military, philippines, marawi

### **Frontline: Marawi**

Pablo, *Frontline: Marawi*, *Stratbase ADR Institute*, 2017.

Click [here](#) for the complete article

**The historical events and enabling factors leading to the Marawi conflict 2017 are discussed in this 16-page occasional paper, and the responses of the Philippine government and military are analysed to make recommendations for enhancing capability.** The paper explores the domestic, regional, and global security environment leading to the seizure of the city by IS affiliated groups and critiques the response to identify legal, doctrinal, organisational and equipment shortcomings. The author argues that Marawi signals a transformation from traditional de-centralised, jungle based indigenous extremist groups, to an internationalised movement seeking confrontation in urban areas. This is a handy primer on the conflict, well explained with maps/charts/illustrations.

Keywords: political, policy, strategy, philippines, marawi

### **Turbulent Ramadan Part 1: The Terrorist Siege of Marawi**

Bird, *Turbulent Ramadan Part 1: The Terrorist Siege of Marawi*, *Red Diamond TRADOC*, 2017.

Click [here](#) for the complete article

**This 12-page newsletter article from US doctrine and training command gives an overview of the first months of the siege of Marawi, and provides background on the strategic situation and threat actors.** The paper includes: discussion of the implications of the presence of foreign fighters; discussion of the regional response to the internationalisation of a hitherto domestic threat; and a focus on the info-war dimension of the conflict. Illustrated with relevant maps and photographs, this is a handy political/strategic primer on the topic which will be of particular use to military trainers.

Keywords: political, operations, information operations, philippines, marawi

### **Turbulent Ramadan Part 2: Terrorism Falters in Marawi**

Bird, *Turbulent Ramadan Part 2: Terrorism Falters in Marawi*, *Red Diamond TRADOC*, 2017.

Click [here](#) for the complete article

**Part 2 of an article from US doctrine and training command, this paper considers the tactical aspects of the battle for Marawi and the challenges faced by a primarily jungle-trained Philippines security force.** The author offers a chronological overview of the battle, with asides that focus more deeply on specific moments of the conflict - the ambush of a LAV penetration into the militant perimeter which resulted in a four-day mini-siege before the troops were extracted, and sobering CAS failures resulting in fratricide. The author notes that IS messaging failed to resonate with the local population, and details the IHL crimes of the besieged militants. The two parts of this article offer a concise and readable primer on the conflict, with vignettes and insights which will be of use to the trainer.

Keywords: tactical, civil-military, mouse holing, afv employment, ihl, philippines, marawi

### **Special Assessment: After Marawi**

Special Assessment: *After Marawi*, *APCFC, Asia-Pacific Counter-IED Fusion Centre*, June, 2017

Click [here](#) for the complete article

**The strategic implications of the ISIS affiliated seizure of Marawi are considered as the siege enters its second month.** In a 2-page article for the US Army, the author considers the propaganda value of the seizure for ISIS Philippines - increased profile and legitimacy, which will drive additional funding and attract global fighters, particularly as ISIS faces reverses in Iraq/Syria. The implications for the

Philippines government are articulated - rehabilitating a devastated city while juggling fragile, continuing peace negotiations with the Moro Islamic Liberation Front and fighting an anti-extremist IO battle.

Keywords: political, strategy, philippines, marawi

### **Marawi IED TTPs**

Marawi IED TTPs, APCFC, *Asia Pacific Counter-IED Fusion Centre*, December, 2017.

Click [here](#) for the complete article

**This 2-page report presents an overview of IEDs used in Marawi (2017) and offers a brief commentary on the conclusion of the siege.** Writing for the US Army, the paper summarises the characteristics of employed IEDs, noting switches, power source, charges, containers and enhancements. The seizure of Marawi is considered a limited strategic success for ISIS Core due to a concerted media campaign, but a tactical and strategic failure for ISIS Philippines which suffered severe attrition of fighters and the loss of most of its leadership.

Keywords: political, strategy, philippines, marawi, ied

### **The XIV Corps Battle for Manila February 1945**

McEnery, *The XIV Corps Battle for Manila February 1945*, US Army Command and General Staff College, 1993.

Click [here](#) for the complete article

**This 161-page US staff college thesis conducts an historical analysis of the WW2 battle for Manila in order to draw insights for planning and conducting large scale offensive operations to seize a defended city.** The paper provides an overview of the strategic and operational setting, and conducts a review of contemporary urban doctrine before offering a narrative of the battle. The author identifies implications for today's force: the paucity in urban doctrine and training at the operational level; the necessity to plan for post-combat operations, population support and reconstruction; and the additional requirement for modern forces to consider the impact of the mass media. This is a readable and thoughtful critique of the battle and lessons-learned.

Keywords: strategy, doctrine, operations, civil-military, philippines

### **Battle of Manila**

Buck et al, *Battle of Manila*, *US Army Command and General Staff College*, 1984.

Click [here](#) for the complete article

**This 68-page US staff college battlebook details the fight for Manila 1945, and includes a strategic overview and account of the tactical situation leading up to the battle.** Mainly focussed at the operational level, the authors conclude that the battle reinforced several truths of urban warfare - it is very slow, very costly, very dependent on small unit action, and that infantry require massive artillery support if they are to avoid high casualties. This is a very general overview which may be of interest as background reading.

Keywords: operations, philippines, manila

## **AFRICA**

### **My Clan Against the World: US and Coalition Forces in Somalia 1992-1994**

Baumann et al, *My Clan Against the World: US and Coalition Forces in Somalia 1992-1994*, *CSI*, 2003.

Click [here](#) for the complete article

**The US intervention in Somalia (1992-1994) is chronicled in this 233-page research report, which offers a background and overview of operations as well as analysis and critical observations.**

Writing for the US Army, the authors offer a chronology of US involvement, and cover aspects including: planning for multi-national campaigns; C2 arrangements; the complexities of coalition ops; the crucial role of cultural awareness; and the political dimension impacting at the operational and tactical level. The paper concludes by summarising insights and observations, dispelling some myths which have grown around the intervention, and cautioning against the tendency for 'lessons' to be drawn from the most recent cases at the expense of deeper analysis. This is a frank, wide-ranging history which is an excellent primer on the topic, albeit understandably US-centric in its focus.

Keywords: political, policy, operations, civil-military, somalia, mogadishu

### **Urban warfare in Sub-Saharan Africa in 1970-1981: Inventing the Rules of the Game**

Urban warfare in Sub-Saharan Africa in 1970-1981: Inventing the Rules of the Game, Astashin, *SSRN online journal*, 2016.

Click [here](#) for the complete article (note this is an academia.edu link)

**This 6-page essay analyses less-studied, urban battles for African capital cities in order to characterise emerging conflict in the 21st Century.** The paper ranges through the Sudan, Gambia, Eritrea, and Liberia, bringing to life a succession of coups, mutinies, separatist movements and invasions throughout the 1970s. The author argues that in Africa control of the capital city equates to statehood, and this battle for international recognition will continue to drive conflict into urban areas. Control of key infrastructure, the efficacy of bombardment, the leveraging of foreign/colonial troops, and the imperative to convert tactical success to political outcomes emerge as key points. This paper tries to cover a lot of ground and assumes substantial prior knowledge in the reader, but draws attention to an extraordinary period of urban warfare.

Keywords: strategy, operations, sudan, angola, eritrea, gambia, liberia

## **THE AMERICAS**

### **The US Military Intervention in Panama: Origins, Planning and Crisis Management**

Yates, The US Military Intervention in Panama: Origins, Planning and Crisis Management June 1987-December 1989, *US Centre of Military History (US)*, 2008.

Click [here](#) for the complete article

**The lead-up to the 1989 US invasion of Panama is narrated in this 332-page official history, which offers not just an exposition of the unfolding crisis but also a case study for OOTW in a politically constrained environment.** Utilising primary sources, field study, and extensive interviews, the author presents a readable introduction to the conflict, focussing on the role and actions of the US military during the period. The relationship between combat command and their political superiors is carefully examined, and the development of contingency plans, ROE and varied operations is examined in an environment where decisions were overwhelmingly driven by policy considerations. This is a comprehensive, readable treatment of the topic which will be of interest to the writer of doctrine and military planner.

Keywords: political, policy, strategy, operations, civil-military, policing, panama

### **Operation Just Cause: The Incursion into Panama**

Phillips, Operation Just Cause: The Incursion into Panama, *US Army Center of Military History*, 2004.

Click [here](#) for the complete article

**Focusing at the operational and tactical levels, this 29-page US Army historical brochure offers a concise, readable primer on the US invasion of Panama (1989).** The paper presents a strategic overview and summary of preparation, and narrates the combat/post-combat actions of US forces. While painting the picture of an overwhelmingly successful campaign, the author acknowledges it was not error free - identifying deficiencies in MOUT training and FS/CAS liaison with ground forces, and shortcomings in post-combat planning and manning. This is an excellent introduction to the operation, supported by photographs, maps, and original art.

Keywords: operations, tactical, civil-military, panama

#### **Operation Just Cause: Lessons for Operations Other Than War**

Taw, Operation Just Cause: Lessons for Operations Other Than War, *RAND*, 1996.

Click [here](#) for the complete article

**This US Army commissioned; 60-page report assesses army performance in the invasion of Panama (1989), and makes a range of recommendations to enhance capability in OOTW.** The author argues that despite the extremely advantageous circumstances of Operation Just Cause there are still lessons to draw: MOUT training remains inadequate; HUMINT is essential; special operations troops are most effectively utilised in the tasks for which they've been trained; equipment development for ootw and MOUT has been neglected; planning must include post-combat stability ops; and allied agencies must develop SOPs in order to contribute. This is a concise, widely cited report which will be of interest to the planner and writer of doctrine.

Keywords: doctrine, operations, intelligence support, logistics, ihl, panama

#### **Operation Just Cause: The Planning and Execution of Joint Operations in Panama February 1998-January 1990**

Cole, Operation Just Cause: The Planning and Execution of Joint Operations in Panama February 1998-January 1990, *Joint History Office*, 1995.

Click [here](#) for the complete article

**The planning and execution of the US invasion of Panama (1989) is narrated in this 99-page monograph, focused at joint chiefs of staff level and offering insights into the relationship between operational and political decision making.** Primarily sourced from joint-staff documents and interviews with key players, the paper offers a background to the conflict, a high-level overview of the unfolding actions, and a brief self-assessment of the effectiveness of the joint effort and recent reforms in joint operations command. The nature of this widely-cited paper allows perspectives and quotes from the big names in the operation, yet leaves it a light, self-congratulatory piece which avoids any deep, critical discussion.

Keywords: political, operations, information operations, civil-military, planning & recce, panama



Building Destroyed during the 1980's fighting on The Suq el Gharb Ridge above Beirut © CAH Knight

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## GLOSSARY

**AAN:** Army After Next

**AFV:** Armoured Fighting Vehicle

**AI:** Artificial Intelligence (processing demonstrated by machines, mimicking the problem-solving and decision-making capabilities of the human mind – IBM)

**APC:** Armoured Personnel Carrier

**AUV:** Aerial Unmanned Vehicle

**C2:** Command and Control

**C3:** Command, Control and Communications

**C4ISR:** Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance

**CA:** Combined Arms (refers to the battlefield synergy derived from integrating the effects delivered by the different combat arms, i.e. infantry, engineers, artillery and army aviation)

**CAS:** Close Air Support

**CASEVAC:** Casualty Evacuation (medical transportation of injured individuals - be it civilians or soldiers)

**CIMIC:** Civil-Military Cooperation

**COA:** Course Of Action

**COG:** Centre Of Gravity (refers to a force's sources of strength, balance or power)

**CQB:** Close Quarter Battle (largely refers to dismounted combat techniques within buildings)

**CQF:** Close Quarters Fighting

**CW:** Chemical Warfare

**DUE:** Dense Urban Environment

**EBT:** Enhanced Blast Technology (thermobaric and specialised explosives)

**EW:** Electronic Warfare

**FAE:** Fuel-Air Explosives (see thermobaric explosives)

**FIBUA:** Fighting In Built Up Areas (British term)

**FS:** Fire Support

**HE:** High Explosive

**HEDP:** High Explosive Dual Purpose (typically launched grenades which have both an armour penetration and fragmentation effect)

**HUMINT:** Human Intelligence (derived by analysing information from human sources)

**ICRC:** International Committee of the Red Cross

**IDF:** Israel Defense Forces

**IED:** Improvised Explosive Device

**IFV:** Infantry Fighting Vehicle

**IHL:** International Humanitarian Law

**IMINT:** Imagery Intelligence (derived by analysing images)

**IO:** Information Operations

**IPB:** Intelligence Preparation of the Battlefield

**ISR:** Intelligence, Surveillance, and Reconnaissance

**LOAC:** Law Of Armed Conflict

**MASINT:** Measurement And Signals Intelligence (focused on distinctive characteristics of targets)

**MG:** Machinegun

**MLRS:** Multi-Launch Rocket System

**MOOTW:** Military Operations Other Than War

**MOUSE HOLING:** Mouse-holing is a tactic used in urban warfare, in which soldiers create access to adjoining rooms or buildings by blasting or tunnelling through a wall.

**MOUT:** Military Operation in Urban Terrain

**Non-Lethal Weapons:** weapons intended to be less likely to kill a living target than conventional kinetic weapons. (Also called less-lethal weapons, less-than-lethal weapons, non-deadly weapons, compliance weapons, or pain-inducing weapons).

**OFOF:** Orders For Opening Fire

**OOTW:** Operations Other Than War

**OPSEC:** Operational Security

**PGM:** Precision Guided Munitions

**PPE:** Personal Protective Equipment

**PYSOPS:** Psychological Operations (actions to convey selected information and indicators to audiences to influence their emotions, motives, and objective reasoning – US)

**RECCE:** Reconnaissance or Intel gathering missions

**ROE:** Rules Of Engagement

**Role 1/2/3:** refers to level of medical support. Role 1 is integral to a small unit and provides immediate life-saving as well as routine health. Role 2 provides resuscitation and basic treatment. Role 3 provides a greater level of care.

**RPG:** Rocket Propelled Grenade

**RWS:** Remote Weapon System

**RWS:** Remote Weapon System/Station

**SIGINT:** Signals Intelligence (derived by analysing electromagnetic transmissions)

**Smoke:** refers to munitions or devices that generate smoke for concealment

**Soldier's Five:** a quick overview of a subject, derived from a soldier's five-minute lesson.

**SOP:** Standard Operating Procedures

**Thermobaric weapon:** an explosive weapon using oxygen from the atmosphere for weight saving and a longer blast pulse. Increasingly a synonym for enhanced blast weapons.

**TTP:** Tactics, Techniques and Procedures

**UAV:** Unmanned Aerial Vehicle

**UGV:** Unmanned Ground Vehicle

**UO:** Urban Operations

**USECT:** Understand, Shape, Engage, Consolidate, Transition

**UW:** Unconventional Warfare

**WP:** White Phosphorus

