

Megacities and the US Army

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ABSTRACT: The urban environment is a known vulnerability for US forces, and it grows more acute as megacities increase around the world. This article describes past research and joint experimentation efforts concerning urban environments and identifies critical gaps for further research and experimentation. A more committed Joint Force constituency, led by the US Army, can lead to better readiness in this area.

The US Army is currently examining the topic of megacities and how to train, organize, and equip itself for successful operations in them. As a recent report from the Army Chief of Staff's Strategic Studies Group stressed, "it is inevitable that at some point the United States Army will be asked to operate in a megacity and currently the Army is ill-prepared to do so."¹ As other authors have noted, Army researchers have determined megacities, urban concentrations exceeding 10 million people, will be the most complex environments for future land operations. Global growth trends also suggest the importance of such complex environments is increasing, "...since the places where people live are getting increasingly crowded, urban, coastal and networked, the wars people fight will take on the same characteristics."²

Given such trends, the Army is justified in asking whether current urban operating concepts and capabilities will suffice to accomplish future national security objectives. Numerous studies related to urban operations exist, all with different focus areas and outcomes, some of which are inconsistent or incomplete. In fact, as this article maintains, the current Department of Defense (DoD) urban strategy is on an uncertain trajectory and is in need of new leadership.

Until its closure in 2011, Joint Forces Command (JFCOM) supported other geographic combatant commands advocating for, and developing, future concepts for joint warfighting. However, the closure of JFCOM and its inability to obtain approval of a Joint Capabilities Document stalled urban concept development. Perhaps JFCOM was never the best choice for this endeavor but merely a pragmatic one, given the Army's preoccupation with the wars in Iraq and Afghanistan. Nevertheless, DoD needs another organization to refresh its dated urban strategy and capitalize on JFCOM's prior work.

1 Chief of Staff of the Army, Strategic Studies Group, *Megacities and the United States Army: Preparing for a Complex and Uncertain Future* (Arlington, VA: Chief of Staff of the Army, Strategic Studies Group, Megacities Concept Team, June 2014), 3.

2 David Kilcullen, *Out of the Mountains: The Coming Age of the Urban Guerilla* (New York: Oxford Press, 2013), 27-28.

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What organization is best suited for addressing this projected challenge? Establishing yet another ad hoc joint task force is neither optimal or desirable. Giving responsibility to the Joint Staff seems misplaced because it is not charged with organizing, training, and equipping the force. Creating a joint program office is an option, but only desirable if one of the military services is willing to lead as the Joint Executive Agent. The Title X statute prescribes that the three services organize, train, and equip their respective forces. It is unlikely the Air Force or Navy would give priority to this effort. The Marine Corps contributes greatly to urban concept development; however, the Marine Corps as an amphibious force does not view urban operations as a core competency. Among the services, the Army provides the largest share of the capability and capacity for operating in urban environments. As the nation's predominant land force, the task of reviving DoD's dormant urban strategy logically falls to the Army.

Originating Directives

The 2014 Army Operating Concept (AOC) builds a narrative of future warfare describing urban operating environments as likely to have “significant impact on land force operations.”³ Clearly, land forces must prepare for all future operating environments and cannot organize, train, and equip exclusively for urban battle-spaces. Forces should be tailored to provide the maximum flexibility to deal with a wide range of operating environments, conflicts, and contingencies. The Army must transform current forces with new capabilities for urban operating environments. In short, the central problem for the Army is: how to balance envisioned requirements for urban operations with other future demands.

In 2000, a Government Accounting Office report stated: “despite a growing unease that the urban environment is a known vulnerability of US forces, DoD has not made a major commitment to dramatically improve urban capabilities.” It thus recommended, “the Secretary of Defense designate a focal point for developing strategy for improving US urban operations capability; identifying doctrine, training, and equipment shortcomings; proposing and prioritizing investments; and coordinating service and Joint efforts in this regard.”⁴

In the wake of this recommendation and directives issued in the 2001 Defense Planning Guidance, US Joint Forces Command (JFCOM) commissioned the Institute for Defense Analyses to develop a roadmap. This roadmap provides “directions to pursue in order to improve significantly the capabilities of future Joint Force Commanders to conduct military operations involving urban terrain.”⁵ The 370-page document took eight people, eighteen months to draft.⁶ The *Joint Urban Operations*

3 US Army Training and Doctrine Command, *The US Army Operating Concept: Win in a Complex World 2020-2040*, TRADOC Pamphlet 525-3-1 (Washington, DC: US Army Training and Doctrine Command, 2014), 12.

4 US General Accounting Office, *Military Capabilities: Focused Attention Needed to Prepare US Forces for Combat in Urban Areas*, NSIAD-00-63NI (Washington, DC: US General Accounting Office, February 25, 2000)

5 US Joint Forces Command, *Joint Urban Operations (JUO) Master Plan 2012-2017* (Washington, DC: US Joint Forces Command, February 2006)

6 Dr. Bill Hurley (Institute for Defense Analysis), interview with author, January 8, 2015.

(JVO) *Master Plan 2012-2017* followed.⁷ The Master Plan is a DoD-wide strategy from the Secretary of Defense to all DoD components. JFCOM became the DoD Executive Agent forming a Joint Program Office to lead DoD concept development and experimentation. Executive agency gave JFCOM technology-transfer authority allowing it to structure partnerships with industry, exchange technical data, make technology assessments, and collaborate on research and development efforts. Any organization charged with similar responsibility would benefit greatly from this type of arrangement.

JFCOM's Urban Roadmap

JFCOM held a human-in-the-loop, concept-based experiment to explore new concepts in urban operations.⁸ This joint experiment, Urban Resolve, ran from 2004 to 2006. The Army Dismounted Battle Lab examined key elements of the Army Concept and Capability Development Plan using Urban Resolve as its capstone event for US Army Training and Doctrine Command's (TRADOC) 2006 Experimentation Program. The exercise asked two questions:

1. How can we fight in urban terrain against an intelligent, determined, well-equipped adversary and win quickly without unacceptable casualties to ourselves or our allies, unacceptable civilian casualties, or unacceptable destruction of infrastructure? and;
2. How can we determine which concepts, materiel, tactics, techniques, and procedures are most effective for fighting in urban terrain?⁹

Both questions remain relevant today - the latter particularly for the Army.

Following the exercise, conceptualizing an intellectual framework for further analytical and planning activities became a key task. The central problem became: "How to operate in an urban environment to defeat adversaries embedded and diffused within populated urban areas without causing catastrophic damage to the functioning of the society there."¹⁰ The moral imperative to protect noncombatants anticipates two additional doctrinal limitations for military forces: (1) minimize collateral damage to noncombatants; (2) preserve the urban network as much as possible so the human inhabitants not suffer needlessly.

JFCOM's experimentation led to a Joint Integrating Concept which acknowledged: (1) "The distinctive features of cities – artificial terrain, human density, and supporting infrastructure – tend to negate Joint force strengths, and, (2) the future urban fight is – perhaps more than any other context of warfare – conditioned by the "battle of narratives" among combatants to secure legitimacy and authority in the eyes of a target population."¹¹ Subsequently, Joint Publication 3.06, *Joint Urban*

7 US Joint Forces Command, *Joint Urban Operations (JVO) Master Plan 2012-2017*.

8 Mike Postma (COL US Army), Urban Resolve 2015, Senior Executive After Action Review October 27, 2006, presented as part of After Action Review to Phase 2 of Urban Resolve 2015.

9 Ibid.

10 US Department of Defense, *Joint Urban Operations: Joint Integrating Concept*, Version 1.0 (Suffolk, VA: US Department of Defense, US Joint Forces Command, 2007), 5.

11 Ibid.

Operations (2013) grew from the Joint Integrating Concept completed six years earlier.

Additionally, in 2008, the Joint Readiness Oversight Council reviewed a Joint Capabilities Document for Battlespace Awareness in Joint Urban Operations. This document mapped 212 tasks to achieve 12 capabilities; 141 of the tasks had one or more gaps. To identify possible solutions for closing these gaps, several analytic projects were proposed each with recommended sponsors. The council did not approve the document because proposed project sponsors, including the Army, were unwilling to participate.¹²

Shortly after the council's decision, further urban experimentation stalled due to a shift in priority. The JFCOM Commander established a Joint Irregular Warfare Program Office, transferring primacy for urban operations and a portion of the budget to this new office. In 2011, JFCOM was deactivated, its documentation was archived, and staff reassignments diluted its expertise and intuitional knowledge. Consequently, JFCOM experimentation has had little influence on Army decisions with regard to urban operations.

Army Megacity Experimentation

Besides JFCOM's efforts, the Chief of Staff of the Army sponsored a series of "think-tank" exercises called, Unified Quest, which explored operations in megacities as part of its future study program in 2003. Unified Quest 2003 took a joint operational perspective for planning offensive operations in a fictional city of 17 million people defended by conventional, state-sponsored forces and popular forces.¹³ Notable insights included:

- The need for strong information operations;
- Special Operations Forces and indigenous allies are invaluable;
- Joint and Army sensors and precision strike weapons optimized for open warfare in uncluttered terrain are of limited value in cities;
- Stability and support activities will be inseparable from combat operations.

Following Unified Quest in 2003, the current version of Army Field Manual 3-06, *Urban Operations*, was revised. The new edition, published in October 2006, appears to need further review and updating.

In 2014, Army research fellows from the Chief of Staff of the Army's Strategic Studies Group developed an appreciation for large urban populations by using case-study vignettes of megacities from around the world. Their white paper claimed megacities occupy strategic key terrain "making their stability necessary for global connectedness and order."¹⁴ The paper continues, "The Army is currently unprepared...the Army must lead."¹⁵

¹² US Department of Defense, *Initial Capabilities Document for Joint Urban Operations*, Draft (Washington, DC: US Department of Defense, September 25, 2009), 4.

¹³ Don Holder (LTJG US Army, Ret.), "Operations in a Megacity: Blue Commander's Perspective," presented at Unified Quest After Action Review, 2004.

¹⁴ Chief of Staff of the Army, Strategic Studies Group, *Megacities and the United States Army: Preparing for a Complex and Uncertain Future*, 5.

¹⁵ *Ibid.*, 22.

Again in 2014, Unified Quest reassessed the issue of the US Army's ability to conduct operations in megacities. This theme continues into 2015. Most of the observations made in 2014 focus on understanding the population, getting higher quality situational awareness information before and during operations, as well as a requirement to consider all aspects and methods of transportation. Concept development has focused on the operational environments: physical, social, and informational.¹⁶

Other Experimentation and Research

Along with the Army Strategic Studies Group white paper, other joint and interagency work began in 2014. The Strategic Multi-Layer Assessment Program, an ad hoc group accepted by the Joint Staff, provides planning support to commands with complex operational imperatives requiring multi-agency, multi-disciplinary solutions that are not within core service / agency competency. Solutions are being sought from across the US Government and academia.

In addition, a 2014 investigation explored megacities for Pacific Command.¹⁷ The objective was to prototype a relevant, low-cost and effective method of producing early indication and tracking of the social, political, environmental, and economic sources of state and population fragility and failure in large urban environments. The intention was to provide a prototype assessment methodology broadly applicable to other commands and agencies. The Army now sponsors an off-shoot of the 2014 program through the Corps of Engineers.

The Urban Security Project is a methodology to develop geo-temporal map layers representing socio-cultural analysis indicators necessary for planning, assessment, and situational awareness. It uses spatio-temporal representation of populations and offers long-term monitoring of urban conditions.¹⁸ Such analysis benefits ground forces during planning and execution of urban operations. One valuable resource for obtaining local information comes from indigenous law enforcement. The nexus of military ground forces and indigenous law enforcement further supports the Army as the pragmatic choice to implement urban strategy at the tactical level and test concepts in cities. Recent experience provides additional supporting evidence for designating the Army as executive agent.

The Army's tactical familiarity with local law enforcement in Iraq provides another tangible and practical example of why the Army is best suited to lead urban operations. In most military operations, perhaps other than full-scale combat, land forces gain local knowledge and benefit from a close relationship with local law enforcement. Some resist the idea of US ground forces teaming with police forces. Corruption,

16 Andrew Bell, email message to author, December 10, 2014. Preliminary Report of Unified Quest 2014: Megacities and Army Capability Needs Observed at Unified Quest 2014. Bell served on the JFCOM Joint Urban Operations Office staff.

17 Charles Ehlschlaeger, ed., *Understanding Megacities with the Reconnaissance, Surveillance, and Intelligence Paradigm*, Topical Strategic Multi-Layer Assessment (SMA) and US Army Engineer Research Development Center (ERDC) Multi-Agency/Multi-Disciplinary White Papers in Support of National Security Challenges (Champaign, IL: US Army Corps of Engineers, Engineer Research and Development Center, April 2014).

18 Charles R. Ehlschlaeger (US Army Engineer Research Development Center), interview with the author, December 3, 2014.

jurisdictional restrictions, and interference with military operations are some of the concerns. However, this reluctance must be overcome. Police forces provide “ground-truth” through their local knowledge and human intelligence through their informants. Just as a beat cop gains better situational understanding of neighborhoods, intelligence preparation of the battlefield must provide a keen sense of ground-truth. Indeed, indigenous police forces can become force multipliers when the US commits “boots-on-the-ground.”

Army Strategic Study Group researchers did not reference previous joint experimentation or joint concepts in their 2014 white paper on megacities; nor were Army researchers familiar with past joint work. The main reason for this omission was the demise of JFCOM, resulting in an incomplete integrative approach and inconsistent staff expertise.

JFCOM’s documents now reside in the National Archives. Knowledge from the results of past joint experimentation could prevent unnecessary duplication by Army staff officers now resuscitating urban concept development. Fortunately, lack of contextual, joint background is not slowing Army efforts.

The human domain and urban operating environments may redefine how the Army organizes, equips, and operates its formations and how it trains and educates its leaders. The Army is considering establishing an urban studies program, possibly at West Point, to educate leaders on societal and cultural nuances of the urban-based human domain.¹⁹ New Army leaders will enhance their cultural knowledge and language skills and refer to joint concepts that emphasize hybrid warfare, peace operations, and counterinsurgency as primary Army missions. The evolving paradigm is a big departure from the combined arms maneuver mantra mentioned earlier, “close with and destroy the enemy.”

Rather than a maneuver brigade combat team as the foundational organizing structure, concepts for conventional force formations in urban spaces could experiment with using tailored, smaller units possibly company-team size with embedded interagency and indigenous enablers. The full range of military operations into tactical urban operating environments could employ scalable, capabilities-based formations. The small unit organizing concept works well for Special Forces and is faster and easier to deploy to a theater, less cumbersome to maneuver and sustain in an urban environment, and values adaptive, flexible leaders – all current Army hallmarks. How willing are current senior Army leaders, raised on combined arms maneuver, to invest in this new paradigm? The dialogue is intensifying now.

The Army as DoD’s Executive Agent

The 2014 Strategic Study Group white paper convinced Army leadership that megacities (a term no longer in vogue with many in the Army—dense urban population centers appears to be the preferred term now) are a challenge uniquely relevant to land forces. The 2014 *Army Operating Concept* envisions urban areas as central to the Army’s future

¹⁹ Patrick Mahaney (COL, US Army, Chief of Staff for CSA’s Strategic Studies Group, AY 2014/15), interview with the author, January 15, 2015.

operational environment.²⁰ However, after 15 years of urban study, it appears US land forces are still vulnerable in those environments.

Given this premise, seeking DoD executive agency and the requisite authorities it provides is warranted. By pursuing executive agency Army leadership signals commitment to joint urban concept development and permits the Army to provide an integrative, functional leader for the Joint Force. The Joint Chiefs should promote the restoration of DoD executive agency for Joint Urban Operations and recommend shifting JFCOM's former role to the Army. As Joint Executive Agent the Army should regain DoD authority, responsibility, and funding curtailed after JFCOM's disestablishment. Updating DoD's Joint Urban Operations Master Plan will result in better collective joint readiness under Army leadership.

Developing a narrative for a renewed urban strategy that resonates with senior DoD executives is a critical next hurdle. Army options for future structure and risk center on what kind of warfighting they will encounter. Army leadership should advocate for a Secretary of Defense approved urban campaign as part of a defense planning scenario to establish a valid program requirement in a future Army program objective memorandum.

The Army must evaluate urban force capability needs across the full range of military operations, determine how that capability differs from traditional conventional force needs for other operating environments, and make force development investment decisions to organize, train, and equip the force. However, there is a shortfall in solid analysis supporting assessment of force capability options and definition of Army requirements. Preparing for urban operations will become vital for land forces and should be the purview of the Army. Concept development within the Army transitions to Training and Doctrine Command (TRADOC), and will become the responsibility of Army Capabilities Integration Center by June 2015.²¹

Comparing JFCOM's and the Army's Approaches

Once the Army succeeds in establishing joint executive agency, it must resolve discrepancies between Army and joint concepts. Comparative analysis finds that with few exceptions, current Army Strategic Studies Group thinking aligns well with joint concepts. One example of a critical disparity between joint and Army concepts stems from an Army doctrinal requirement to isolate an urban area and to approach it incrementally from the periphery of the city.

In contrast, the Strategic Studies Group white paper stated, "For megacities, both of the assumptions [isolation and operating from the periphery] are flawed. By virtue of their scale, megacities cannot be physically or virtually isolated."²² However, JFCOM's experimentation validated the guiding principles—*isolation and control*. A clear disparity

20 US Army Training and Doctrine Command, *The US Army Operating Concept: Win in a Complex World 2020-2040*, 12.

21 Patrick Mahaney, interview with author.

22 Chief of Staff of the Army, Strategic Studies Group, *Megacities and the United States Army: Preparing for a Complex and Uncertain Future*, 8.

thus exists between Joint and current Army concepts. This conceptual difference must be overcome.

This conceptual disconnect may be situational. Service doctrines must be broad enough to cover the full range of potential operations, yet flexible enough for commanders to adapt to ground truth. Urban environments come in many forms so there is no single, scalable solution.

Control of the entire city may not be a realistic objective and need not be an essential task. Stopping adversaries from damaging socio-cultural and financial networks and protecting other urban networks such as key city infrastructure may suffice. Future experiments must determine if, or how, Joint Forces could virtually or selectively isolate adversaries when physical isolation of an entire city is not achievable.

In addition, it may be wise not to fixate on population size as a qualifier for operational analysis. A megacity is but one variation of an urban system. Though an important metric for scale and determining force-size, population size does not drive force capability or technology requirements. Decision-makers should not restrict analysis to megacities – determining analytic priority should be threat-based. The determining factors for force capability this research recommends follow:

- Mission–humanitarian assistance, noncombatant evacuation, counterinsurgency, combat, etc
- Threat–terrorism, paramilitary, insurgency, state-sponsored conventional force
- Urban typology–highly, moderately, or loosely integrated, or some combination thereof
- Population density and fragility
- Physical built environment–subterranean, above ground (high-rise), infrastructure, etc
- Understanding how to manage the behavior of city inhabitants

Urban concept development needs analytic tools that support the development and visualization of these complex environments as part of the intelligence preparation of the battlefield process. Industry and academia can contribute much. Modeling urban systems relies on field-based research, remote and local sensing, local networks, and big data analysis. With Combatant Command sponsorship research could commence now. The Strategic Multi-layer Assessment Program offers social science research and analysis techniques suited for urban shaping operations. One promising area is data collection. Techniques employing indigenous surveyors offer the most accurate information and should be expanded.

Urban Metrics Needed

As mentioned earlier, strategic landpower leadership promotes a security strategy focusing on the human domain to prevent war and shape security environments.²³ It follows, then, that a security strategy

²³ Raymond Odierno, James Amos, and William McRaven, *Strategic Landpower: Winning the Clash of Wills* (Washington, DC: US Army, US Marine Corps, and US Special Operations Command, May 2013).

based on the human domain and conflict prevention requires metrics to gauge the effectiveness of shaping and engagement activities. Ultimately metrics must reveal the will of populations. “Make the important measurable,” as former Secretary of Defense Robert McNamara reportedly urged, “instead of making the measurable important.”²⁴

But, measuring prevention is difficult, if not impossible. How can one prove or measure whether something was prevented from occurring? Metrics tend to focus on inputs.²⁵ Measures of effectiveness for shaping and engagement activities are unclear and determined by individual geographic commands.

Given the complexity and interconnectedness of urban environments, assessing the effectiveness of shaping and engagement activities is impossible without first having an understanding of the desired end state. This requires formulating likely objectives under a variety of missions and then empirically determining factors most likely to be associated with those objectives. In order for land forces operating in populated urban spaces to achieve strategic effect, they ultimately must rely on direct connections between real people – friendly, hostile, and noncombatant. Current Army shaping activities reflect deterrence through forward stationing and the Regionally Aligned Force initiative. Neither focuses on cities, but both rely on the presence of land forces for their deterrence value.

Land forces cannot adequately prepare for what they do not understand, so some priority cities should become units of analysis. Now is the time to identify candidate cities for developing specific urban-based, human domain metrics. Each is unique. There is no better place to start than in Korea.

Seoul, South Korea is a megacity which by Mutual Defense Treaty the US will protect and defend. It is an excellent first candidate to develop specific metrics for an urban operating environment. The rationale for selecting Seoul is multifaceted. The Army presence in Seoul spans over 60 years. The Republic of Korea (ROK) and the US are in the process of a historic transfer of operational control from US-led military readiness and preparedness to ROK control. The ROK-US Alliance permits superb cooperation for collaboration and study of urban environments.

The defense of the ROK requires a large commitment of land forces. The 23 million people living in the Greater Seoul Metropolitan Area constitute the economic, political, and cultural center of gravity of a staunch US partner. Actions needed to defend Seoul could span the full range of military operations. With approximately 200,000 US citizens residing in South Korea, the vast majority in Seoul, noncombatant evacuation of US citizens and humanitarian assistance for ROK civilians under threat of attack by North Korean sleeper agents and Special Forces would stress early contingency response.

24 Sarah Bessell, “Behind the Numbers: Assessing Indices of Peace, Conflict and Instability,” United States Institute of Peace, November 1, 2007, <http://www.usip.org/publications/behind-the-numbers-assessing-indices-of-peace-conflict-and-instability>.

25 Janine Davidson (Former OSD Deputy Assistant Secretary of Defense for Plans, currently Senior Defense Fellow for Policy with the Council on Foreign Relations), e-mail to author, January 22, 2015.

Contingency scenarios involving the North Korean regime link to Pyongyang, another excellent choice for assessment, although a far more difficult place to survey. The inhabitants of Pyongyang are loyal regime disciples, tens of thousands belong to the Pyongyang's Supreme Guard Command and Kim Jong-un's Bodyguard Corps. Clearly there are a plethora of candidate cities, but Seoul and Pyongyang, a priority for contingency planning, offer several practical advantages for initiating city analyses.

A Way Forward

A thorough qualitative understanding of urban operating environments should precede anticipated quantitative analysis. Charting a path forward requires accelerated attention to several areas. Defining a set of actionable tasks from the insights and lessons from the past 13 years of conducting urban operations, counter-irregular warfare, and a decade of joint urban concept development would be a worthy early deliverable for Army concept developers. To gain a better sense of how new research might treat capability gaps with objective analysis the effort needs a new roadmap. The following actions are thus recommended:

Recommended OSD Actions

- Restore JFCOM's Executive Agent responsibility with the Army
- Support programming requirements by approving an urban campaign as part of a Defense Planning Scenario
- Designate cities as units of analysis

Proposed Army Actions

- Gain Joint Readiness Oversight Council approval for a Joint Capabilities Document
- Formulate likely Army objectives under a variety of urban missions
- Determine priority cities for analysis

In sum, JFCOM's prior Joint Urban Operations mission is similar to the Army's current challenge, the Army should become DoD's Joint Executive Agent for urban operations. Ultimately, the Army must evaluate urban force capability needs across the full range of military operations, determine how that capability differs from traditional conventional force needs for other operating environments, and make force development investment decisions to organize, train, and equip the force.