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Operation
Inherent Resolve

U.S. Ground Force Contributions
About This Report

This report documents research and analysis conducted as part of a project entitled *U.S. Army Contributions to “By, With, and Through,”* sponsored by the Office of the Deputy Chief of Staff, G-3/5/7, U.S. Army. The purpose of the project was to help the U.S. Army distill and institutionalize lessons from Operation Inherent Resolve (OIR) to inform current and future operations against the Islamic State and other violent extremist organizations.

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Summary

The research reported here was completed in February 2021, followed by security review by the sponsor and the U.S. Army Office of the Chief of Public Affairs, with final sign-off in August 2022.

This report provides a narrative account of four battles within Operation Inherent Resolve (OIR) and a review of U.S. ground force contributions to those battles. The report is intended to serve as an operational history and review of warfighting functions as applied to OIR. Although OIR was both a coalition fight and joint one, our focus on U.S. ground forces is meant to address gaps both in analysis and in the common understanding of OIR.

We conducted this project in reference to the overarching operational concept of by, with, and through. This concept refers to the U.S. military’s reliance on local partners—either a host nation government or a local surrogate force—to prosecute ground fighting with U.S. support. That support typically encompasses U.S. advising and enablers and could involve U.S. forces accompanying the partner. Although the terminology is familiar to those working in national security, by, with, and through has yet to be formalized in joint doctrine and there are some inconsistencies in its usage. For this reason, we trace the development of the concept and its application in OIR before returning to it in the concluding chapter to analyze how it might be better incorporated into military doctrine.

To analyze the application of by, with, and through in OIR, we detail the overall command and control (C2) of Combined Joint Task Force (CJTF)-OIR and review which U.S. Army and U.S. Marine Corps units deployed between summer 2014 and spring 2018. We then profile four battles: the counterattacks on Ramadi and on Fallujah, setting the conditions for Mosul, and the urban fight in Mosul. The choice of these operations was made to ensure treatment of both major river valleys (the Euphrates and Tigris) where the Islamic State of Iraq and Syria (ISIS) was defeated in Iraq and to cover battles at different points in the overall campaign, enabling our analysis of the evolving type and scope of U.S. military assistance over time.

Our analysis is derived from interviews we conducted with returned U.S. Army and U.S. Marine Corps personnel. The interview sample is heavily
drawn from field-grade officers (O-4 to O-6) and focuses on the three U.S. Army advise and assist (A&A) brigades (Task Forces [TFs] Warrior, Strike, and Falcon) that overlapped with our four case studies. The insights from these interviews provide an account of ground force contributions to OIR that does not exist elsewhere. In addition to our own interviews, we had access to interviews conducted by other organizations—specifically, the U.S. Army Military History Institute and Mosul Study Group. Besides these interviews, we leveraged official updates from CJTF-OIR and the Iraqi military command, journalistic accounts, and lessons learned documents. At the time of this writing, there is no public operational history of OIR. This report fills that gap.

Summary of By, With, and Through Concept

The U.S. campaign to defeat ISIS has brought the phrase *by, with, and through* into common military parlance and revived long-standing debates over partnered and surrogate operations. A review of U.S. Army and joint doctrine, defense publications, and public statements by defense leaders demonstrates that by, with, and through has been associated with an array of partnered and surrogate activities but is neither a distinct operational mission nor a doctrinal practice. Current Department of Defense guidance suggests that the concept is a flexible process of interaction applicable to several small-footprint operations and related combat and advisory missions.

The evolution of the by, with, and through concept over time parallels the greater emphasis that the United States has placed on building partner security forces. The term was first coined in the early 1990s to explain the U.S. Army Special Forces practice of partnered and surrogate operations at a time when Special Forces’ roles and missions within the U.S. Army were under review. However, as the United States increasingly prioritized the building of partner nations’ military capacity, the concept’s meaning expanded to match emerging political, institutional, and strategic realities.

In the aftermath of the U.S. invasion of Afghanistan and Iraq, the term appeared for the first time in the 2003 Joint Publication 3-05, *Special Operations*, which described military and paramilitary operations conducted “through, with, or by indigenous or surrogate forces who are organized,
trained, equipped, supported, and directed . . . by an external source.”¹ Over
the subsequent decade, prolonged counterinsurgency and nation-building
campaigns in Iraq and Afghanistan required the U.S. military to refine and
adapt new strategies to build, advise, and enable local security forces. It was
at this time that the term began to connote any surrogate or partnered activ-
ity regardless of the forces involved, the desired objective, or the nature of
the foreign party. Rather than a practice specific to unconventional warfare,
the phrase referenced a general process of interaction that could be imple-
mented during any operation that required training, advising, supporting,
or coordinating with foreign entities.

By, with, and through was explicitly put to use in OIR. The use of by, with,
and through as an operational approach in OIR is often attached to U.S. Cen-
tral Command (CENTCOM) Commander Joseph L. Votel’s description. First,
by signifies that operations are led by foreign state or nonstate partners, who
dictate the pace, establish strategic parameters, and maintain ownership of
operations. Second, foreign partners operate “with enabling support from the
United States or U.S. led coalitions,” ranging from Special Operations Forces
operational advisers to such joint force resources as fire, intelligence, and sus-
tainment. Third, these activities are conducted “through U.S. authorities
and partner agreements.”² The through preposition implies that U.S. forces derive
their right to operate and deploy via traditional U.S. authorities coupled with
partner agreements. According to this interpretation, partnering forces and
nations have to officially solicit a U.S. military presence.

Precisely which missions, activities, and tasks compose a by, with, and
through operation is still unclear, however. CENTCOM, U.S. Africa Com-
mmand, and U.S. Southern Command operations suggest common practices,
but there is no specific guidance on how these activities are ordered, inte-
grated, and resourced. Moreover, the concept requires further application in
other settings before a decision is made on its suitability as an institutionalized
military doctrine. By design, it represents a flexible and adaptable process.
Attempting to create a formal by, with, and, through doctrine might work

¹ Joint Publication 3-05, Special Operations, Washington, D.C.: U.S. Joint Chiefs of
Staff, December 17, 2003, pp. II-8–II-10.
² Joseph L. Votel and Eero R. Keravuori, “The By-With-Through Operational
against this flexibility. For these reasons, we do not find a compelling rationale at this time for immediately elevating by, with, and through as a stand-alone mission or activity that warrants the doctrine, organization, training, materiel, leadership and education, personnel, and facilities (DOTMLPF) investments that would accompany such a move.

Summary of Command and Control Structures and Ground Force Deployments

In the initial period when the U.S. government was standing up a military response to ISIS, U.S. Army Central served as the overall command for operations against ISIS and also retained its role as the Army Service Component Command overseeing Army contributions to the broader theater. This changed when CENTCOM designated a 3-star CJTF to oversee the mission and transitioned its leadership outside the Third Army. The new 3-star-commanded TF, headquartered in Kuwait, oversaw the contributions of the CJTF land component, which was a 2-star command known as the Combined Joint Forces Land Component Command (CJFLCC).

Because the focus of this report is on U.S. ground force contributions, the CJFLCC is the most relevant command, and the soldiers and marines we interviewed ultimately reported through that command. The one caveat is that operational control and tactical control were often split among deploying units. Specifically, an Army unit or a Marine Corps TF might be operationally controlled by its organic brigade but then tactically controlled by the CJFLCC.

The C2 structure evolved according to the challenge at hand. Specifically, CJTF needed a variety of capabilities but was constrained by a force management level (FML), which can be understood as a troop cap, that meant only parts of U.S. Army Brigade Combat Teams (BCTs) and parts of U.S. Marine Special Purpose Marine Air-Ground Task Forces (SPMAGTFs) were deploying into Iraq to support the operation. To avoid surpassing the FML cap and to limit physical risk to U.S. forces, unit headquarters were sometimes located out of country (typically in Kuwait). Moreover, to ensure
unity of effort and faithful implementation of priorities, the CJFLCC needed tactical control over some units.\textsuperscript{3}

As for the U.S. Army and U.S. Marine Corps units that deployed to OIR, the largest contingents were the U.S. Army A&A brigades that manned the operation in roughly nine-month cycles. Each was a “brigade minus,” meaning that a portion of the organic brigade was left back at home station to keep within the FML constraint. The three BCTs most relevant to our cases are the 1st BCT, 10th Mountain Division (DIV), commanded by then-Colonel (COL) Scott Naumann; the 2nd BCT, 101st Airborne DIV, commanded by then-COL Brett Sylvia; and the 2nd BCT, 82nd Airborne DIV, commanded by COL Pat Work. The deployments were also known as TF Warrior, Strike, and Falcon, respectively.

In addition to these BCTs, the Army deployed parts of combat aviation brigades (CABs). Like the BCTs, only parts of the CABs were deployed, and some had theaterwide responsibilities, meaning parts of the brigade might support Operation Resolute Support while other parts supported OIR.\textsuperscript{4} These CABs contributed AH-64s to OIR, which initially operated in a defensive capacity and later transitioned to an offensive capacity. In addition, CABs often brought unmanned intelligence, surveillance, and reconnaissance (ISR) platforms, although those platforms were often tasked outside the brigade (for example, to a Marine Corps TF at Al-Asad Air Base). Finally, the U.S. Army redeployed small elements from Operation Spartan Shield, the theater reserve force in Kuwait, to support as needed. A field artillery regiment, as an example, might be sourced from Operation Spartan Shield.

As for the Marine Corps, the largest formations they deployed were SPMAGTFs, which consisted of more than 2,000 marines. However, the SPMAGTFs had theaterwide responsibilities, supporting Marine Corps contributions throughout CENTCOM. The Marine Corps TFs singularly devoted to OIR were the ones at Al-Taqaddum Air Base and Al-Asad Air Base, both located in western Iraq. The broader SPMAGTF would support

\textsuperscript{3} To be clear, this discussion pertains to the C2 of U.S. forces only. The command relationship between U.S. and other coalition forces was even more complicated, and the coalition did not control the local Iraqi ground forces.

\textsuperscript{4} The contributions of these CAB companies to Operation Resolute Support included kinetic operations.
these marines by providing a Quick Response Force in the event that ISIS threatened to overrun an installation and by providing materiel and personnel needed by the smaller Marine Corps TFs in western Iraq to carry out their missions of advising and assisting Iraqi forces.

Summary of Four Case Studies

The first two case studies treat operations in the Euphrates River Valley. We reviewed the battles to liberate Ramadi and Fallujah, the first and second most-populous cities in Anbar Province. Those operations occurred at a relatively early phase in OIR (2015–2016), before policy decisions made late in the Barack Obama administration and early in the Donald J. Trump administration allowed for an increase in the scope and types of U.S. military assistance. These case studies take a more limited approach to the by, with, and through concept when viewed in contrast with later operations.

Ramadi is best understood as an initial source of frustration before ultimately becoming an early turning point in the fight against ISIS and the application of the by, with, and through approach in Iraq. Ramadi was a setback to OIR in that ISIS seized the city well after the coalition had launched operations to contain and begin rolling back the group’s advance. Worse was the manner in which Ramadi fell in spring 2015, with the Iraqi Security Forces (ISF) fleeing from a force that was inferior from the standpoint of the number of forces and equipment fielded. The initial ISF counterattack to retake Ramadi was similarly frustrating, characterized by an overreliance on Shi’a militias and stalled progress. The effort began to turn in October and November 2015, when the cordon around the city was tightened and the ISF succeeded in surmounting some of the defensive obstacles that ISIS had put in place to slow the ISF advance. In late 2015 and early 2016, the liberation operation moved to Ramadi’s city center, with ISIS cleared from the neighborhoods and government buildings that it had occupied.

The composition of the ISF that retook Ramadi was diverse, but the operation set the precedent of the elite Iraqi Counterterrorism Service (CTS) operating as an assault force to carry out some of the toughest fighting. Although the CTS was long regarded as highly capable, it was not designed to operate in an infantry capacity; rather, it functioned as a small-unit counterterrorism
force executing raids, hostage rescues, etc. Ramadi marked the CTS’s transform-
ation into a force that could operate as part of combined arms manue-
vers, something that would be required to liberate additional territory after
Ramadi.

The international coalition, broadly, and the U.S. military, specifically,
supported the ISF counterattack on Ramadi. However, U.S. ground force
contributions were limited. U.S. surface fires delivered from artillery at
nearby Al-Taqaddum Air Base played a small role relative to the joint strikes
delivered by airpower. There were no U.S. Joint Terminal Attack Control-
lers forward. U.S. advisers were constrained to advising from division-level
headquarters. And the United States had yet to introduce offensive strikes
from AH-64s. (This capability was put on offer to the Haider Al-Abadi gov-
ernment of Iraq but was ultimately not requested by Baghdad.)

Despite the initial setback and then the prolonged nature of the fight to
expel ISIS from the city, Ramadi was, in retrospect, a turning point in the
campaign. After Ramadi, ISIS did not successfully take another city in Iraq
of comparable strategic importance. The CTS showed that it was capable
of transitioning to a different military mission than its initial design. And
policy debates were percolating in Washington that would soon manifest in
the expansion of U.S. involvement, such as U.S. ground force contributions,
to defeat ISIS.

After the liberation of Ramadi was completed in early 2016, ISF attention
shifted to nearby Fallujah. Counterintuitively, Fallujah is closer to Baghdad
than Ramadi is. The ISF thus began by liberating a city (Ramadi) farther
away from their capital and then worked their way back to clear a second
city (Fallujah) just 64 km from the capital. The sequence of operations was
one of the more contested aspects of the campaign at the time. Baghdad
preferred a conservative campaign plan of leaving much of its forces in the
capital area and front-loading the liberation of population centers around
the capital. Pushing its forward line of own troops away from Baghdad took
on even greater urgency for the government of Iraq when it was discovered
that attacks inside the capital were being planned and executed from nearby
Fallujah.

As for CJTF-OIR, U.S. commanders had a different perspective on the
ideal campaign plan. On the one hand, they understood and supported the
imperative of liberating nearby Fallujah. On the other hand, they argued that
Iraq had relegated itself to playing defense in the capital area and would see greater gains by pressuring ISIS in its center of gravity: Mosul. The logic was that, even if securing Baghdad was the priority, pressuring ISIS in the area where it was most invested would create a dilemma for the group, leading it to redeploy its forces back to Mosul, which would contribute to Baghdad’s security. Indicative of one of the realities of operating by, with, and through, the partner’s perspective won the day. The government of Iraq pushed on with its campaign plan, which it largely followed (in terms of sequence) for the entirety of the fight that would unfold over the following years.

The battles around and eventually inside Fallujah proceeded more quickly than the Ramadi counterattack. Some of the issues that bedeviled early attempts to retake Ramadi persisted, such as the level of Shi’a militia involvement. But the Iraqis once again defaulted to the blueprint of relying heavily on the CTS to overcome the most-entrenched ISIS resistance. The ISF also benefited from leaving an escape valve in the city, which saved some destruction of infrastructure and likely mitigated collateral damage by tempting ISIS fighters into fleeing in the late stages of the fight. Although this approach was criticized by some as allowing ISIS militants to live another day, many of those fleeing were eliminated by U.S. air strikes in the open terrain outside the city.

U.S. ground force contributions were not significantly changed from the Ramadi operation. The U.S. Army, in collaboration with the U.S. Marine Corps, did deliver surface fires—which, given the variety of the systems, appear to have been most important for supporting the ISF’s shaping operations outside the city. As in Ramadi, there were no AH-64 Hellfire strikes. And, once again, advisers were supporting from division headquarters, except in rare instances when advisers relied on the flying to advise concept to get closer to the front lines. (This involved U.S. advisers visiting ISF forward headquarters by helicopter and remaining on the ground for 48 hours or less to provide input into ISF operations.)

However, as events in Fallujah were unfolding, the U.S. military was granted new authority and began to develop a new model to assist ISF oper-

This new approach would be piloted in the next major operation, which also corresponded to a shift in the geography of the fight to the Tigris River Valley and Kurdistan Region of Iraq. As operations moved north, U.S. political and military leadership announced a series of “accelerants” that would be introduced to better support Iraqi ground operations. Not all of the accelerants that were announced were implemented immediately, but they included both introducing offensive strikes from AH-64s and advising at lower echelons, meaning that U.S. conventional ground forces could move with Iraqis closer to the front lines. In addition, the intensity of U.S.-provided surface fires increased, with a camp in northern Iraq at Makhmur becoming a focal point for this contribution.

This point in the campaign is known as setting the conditions for Mosul because it involved the ISF—including the Kurdish Peshmerga—retaking the territory around Mosul that afforded the terrorist group its defense in depth. To launch an operation that would liberate the second largest city in Iraq (Mosul), the ISF would need to secure basing infrastructure and key terrain features (geographic locations, ground lines of communication, high ground, river crossings) where they could mass and then sustain the nearly 100,000 forces that would be used for the counterattack on Mosul city. There is no large population center in these outlying areas; rather, there is a series of small towns and villages that needed to be cleared on both the east and west banks of the Tigris.

Despite some learning from previous engagements, the challenges that held the ISF back in Fallujah and Ramadi persisted into this portion of the campaign. Specifically, the ISF remained vulnerable to vehicle-borne improvised explosive devices (VBIEDs) and, with the exception of a few elite units, were reluctant to advance unless they had an overwhelming correlation of forces in their favor and the enemy was first attrited through coalition strikes.

To help overcome these challenges, U.S. ground forces increased the scope of their involvement. Army aviation, in the form of AH-64s firing

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6 The ISF were learning from earlier challenges. For instance, lessons learned from Fallujah were incorporated into CTS training courses as those units refitted and continued to prepare for future battles. David M. Witty, *Iraq’s Post-2014 Counter Terrorism Service*, Washington, D.C.: Washington Institute for Near East Policy, September 2018.
Hellfire missiles, was used to reduce threats to ISF ground maneuvers up the Tigris. A fire base at Makhmur and forward artillery positions were used by both U.S. Marine Corps and U.S. Army Field Artillery Regiments to provide counterbattery strikes against ISIS’s own indirect fire capabilities and, more generally, to support the ISF’s maneuvers. In addition, the U.S. Army A&A brigade began sending advisers closer to the fight, partly to advise on niche competencies, such as bridging to support a contested river crossing.

The combined efforts of the ISF and coalition led to Iraqi forces surrounding Mosul and establishing the infrastructure to support subsequent axes of advance into the city. Notably, U.S. advisers also helped alleviate a political threat to the success of this portion of the campaign. The Euphrates River Valley operations were characterized by Sunni-Shi’a tension; this portion of the campaign carried over that challenge and added Arab-Kurd tension over the disposition of federal forces in proximity to Kurdish areas. Notably, the United States was able to broker and then maintain an agreement under which the Kurds allowed federal forces to transit areas under Kurdish control while agreeing with the Peshmerga that those Kurdish forces would not be part of the assault on Mosul’s urban areas, thus mitigating the potential for ethnic violence.

With Mosul surrounded, the campaign then moved to the most important juncture in the fight: expelling ISIS from its Iraqi capital. The complexity of this operation was only increased by the diversity of security actors involved, with the Iraqi Federal Police and Emergency Response Division playing a greater role in the operation, particularly the clearing of West Mosul, than seen in earlier cases profiled. Although the CTS now had more support, it once again led the East Mosul clearance. The CTS prevailed in its engagements but suffered high attrition rates in the fighting. It took nine months to complete the entire clearance of the city, and the effort resulted in the city’s effective destruction and reportedly high levels of civilian casualties. Given that ISIS put up its stiffest resistance in Mosul and had more than two years to prepare its defensive positions, the coalition increased the scope of its support to the ISF to offset these challenges. U.S. ground forces were an important part of the increased coalition capabilities brought to bear on behalf of the ISF. Specifically, the U.S. Army A&A brigade advised the ISF at the brigade and battalion levels rather than advising from the rear at division headquarters. This change, along with the lowering of target
engagement authority, was enshrined in Tactical Directive #1.\(^7\) The directive, issued by then-CJTF-OIR Commander General Stephen J. Townsend, was meant to empower U.S. forces to support the fight more closely. The directive effectively fused all the enablers, in that a U.S. adviser could now better tap into ISR, fires, and close combat attack to support ISF maneuvers.

Summary of Overall Conclusions

The by, with, and through concept put into practice for OIR largely achieved its objectives but at a great cost in civilian casualties. The short-term objective of the territorial defeat of ISIS’s caliphate can be observed; the longer-term objective was providing for the enduring defeat of ISIS and cannot yet be evaluated. The positive short-term outcome is attributable to several important factors. First, the United States escalated its involvement, such as increasing its ground force presence over time. Beginning in Ramadi and continuing up to operations in Mosul, U.S. force caps rose to meet expanding requirements on the ground. The early emphasis was on building up, training, and equipping Iraqi security forces. As the Iraqis began to field more-capable units, the U.S. emphasis shifted. Advising, initially at the division headquarters level, became more of an imperative as the ISF began to slowly translate their battle plans into operations, first in Ramadi, later in Fallujah, and then along the Tigris River Valley in anticipation of operations in Mosul. This advising came with the provision of enablers, such as ISR and medical support, with real-time drone feeds particularly sought after by ISF commanders.

This slow but deliberate process was another factor in the success of OIR in that it led to deeper relationships with Iraqi forces. Although U.S. Army commanders at times pressed the ISF to speed up or accelerate operations, the more moderate pace of the battle flow served the interest of A&A teams on the ground, affording them time to establish key relationships with partner units, learn who the power brokers were, appreciate (at least partially) political dynamics, and anticipate how to solve problems that arose. This

\(^7\) Although the full content of the directive is classified, its intent has been discussed publicly by CJTF commanders; our information is derived from those discussions.
proved especially critical during the early stages of the Mosul fight, when the initial emphasis was on the buildup of basing infrastructure (specifically, an intermediate staging base, a fire base, and several artillery positions and tactical assembly areas [TAAs]). By the time this process fully played out, U.S. advisers were in a better position to advise and enable their Iraqi counterparts, had brokered an Arab-Kurdish compromise on staging Iraqi federal forces in a Kurdish-held area, and had jointly mitigated some of the capabilities that ISIS employed—principally VBIEDs—to attrit the ISF and erode their will to fight. Another key advantage that the U.S. forces enjoyed was their history in Iraq. Many (but not all) U.S. ground force personnel who deployed to Iraq for OIR had previously deployed to the country—sometimes more than once—between 2003 and 2011. The value in knowledge and previous in-country experience would be difficult to overstate. It afforded U.S. commanders and personnel an important baseline knowledge of the country to which they deployed. They understood or appreciated the tense internal political dynamics within Iraq. And many had helped to build the very Iraqi Army they were now supporting. Additionally, the previous U.S. investment in Iraq produced pockets of competence within the ISF. Although the conventional Iraqi Army’s collapse at Mosul in 2014 is infamous, there were still relatively high-performing units that could be drawn on. Prior U.S. engagement also meant that the Iraqi Army was fielding some U.S. equipment, such as M1A1 Abrams tanks.

Additionally, U.S. advisers on the ground had the distinct capability to deliver lethal effects in support of the Iraqis. Beginning in early 2016, U.S. ground forces escalated the level of kinetic enablers provided to the Iraqis. These accelerants consisted of the introduction of offensive strikes from AH-64s and additional surface fires, such as long-range high-mobility artillery rocket systems. This generated benefits for U.S. force readiness as Army artillery and combat aviation units attained high levels of proficiency in carrying out their respective combat functions. The lethality of these enablers was similarly enhanced by U.S. advising of the Iraqis at lower echelons. These factors increased the pressure on ISIS and afforded U.S. advisers influence, including a degree of leverage, with their Iraqi counterparts.

With regard to doctrine, the OIR experience and application of the by, with, and through concept suggests both optimism and caution for further development, refinement, and formalization of the concept. First, as already
described, OIR in Iraq and the U.S. and coalition efforts to support and work with the ISF should largely be seen as a success or a win for the concept: ISIS was defeated. The Iraqis accepted and exerted full responsibility for developing the operational plans to recapture their country. Second, although not a cheap endeavor by any accounting, OIR was less expensive to the United States precisely because it was conducted by the Iraqis and not the U.S. military. A unilateral U.S. effort, although likely politically infeasible, would have meant more loss of U.S. soldiers and marines and a higher price tag. The by, with, and through approach reduced risk to U.S. forces. Third, OIR experience in Iraq reveals the nimbleness and flexibility of the by, with, and through process. Part of the appeal of the approach is that it is highly situationally dependent. This kind of agility was an essential component for the largely successful outcome in Iraq.

Successes notwithstanding, there are reasons for caution. The very uniqueness of applying the concept has implications that could work against or greatly complicate formalizing a more involved doctrine. The purpose of doctrine is to promote a common perspective for planning, training for, and conducting military operations. It should offer distilled insights and wisdom attained from the employment of military force. That the OIR episode reflects common principles and perspectives associated with by, with, and through across the various services is not clear. Moreover, a formalization of the concept as doctrine would impose even more burdens and investments on the services, especially related to their respective training bases and force structures.

Implications and Recommendations

We determined the following implications for the U.S. Army regarding future by, with, and through operations:

- There is no substitute for U.S. Army advisers being able to deliver kinetic effects beyond strictly advising. Doing so increases adviser influence and leverage.
• Improving the Army’s by, with, and through capacity will require substantial investments in training and manpower oriented toward the effort.
• OIR achieved its short-term objective (albeit at great cost to civilians) but might not serve as a replicable blueprint for many future operations, particularly in places where the United States lacks deployment history.
• By, with, and through was a highly effective operational concept for OIR. However, the development of any future doctrine formalizing it should reflect insights from multiple cases.

These implications lead to the following recommendations:

• U.S. military and political leadership should resist the temptation to default to a by, with, and through approach in future contingencies in expectation of outcomes similar to those of OIR.
• U.S. land forces should prepare for combat even when called on to apply a by, with, and through approach to future operations. The type of warfare they might be asked to do—close combat attack and delivery of surface fires—introduces less physical risk but is, nonetheless, combat.
• Future by, with, and through endeavors should prioritize the generation of indigenous combat-ready forces and local ownership of the fight before introducing accelerants, such as surface fires or advising at lower echelons.
• We do not recommend immediately elevating the by, with, and through concept as a stand-alone mission or activity that warrants the DOTMLPF investments that would accompany such a move. However, should it wish to formalize the by, with, and through concept into doctrine, the Army will need to do the following:
  – socialize this development across the joint force, especially among the services and combatant commands
  – harmonize any doctrinal differences in use and interpretation of this concept that currently exist within the conventional Army and among other communities, such as Special Operations Forces.
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CHAPTER ONE

Introduction

This report provides an operational history of U.S. ground force contributions to Operation Inherent Resolve (OIR) in Iraq and reviews key warfighting functions critical to OIR’s execution. Although the intervention has been described by U.S. policymakers as involving no U.S. ground combat, this description obscures the fact that U.S. Army and U.S. Marine Corps personnel operating on the ground were major contributors to the defeat of the Islamic State of Iraq and Syria (ISIS). Furthermore, as former Secretary of Defense Ash Carter has noted, U.S. forces were involved in combat despite not being part of ground maneuvers at the front lines. First deployed in 2014 and still operational at the time of this writing, U.S. soldiers and marines operated by, with, and through local forces to roll back ISIS. Today, the U.S. Army and U.S. Marine Corps continue that mission by pressuring ISIS’s remaining network in order to prevent its resurgence and ability to regain territorial control in Iraq.

This report is intended to provide an empirical account of how U.S. ground forces contributed to the mission. At the time of this writing, there is no publicly available operational history of OIR or secondary source covering the mission. What has been published are accounts of specific ground

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1 White House, Office of the Press Secretary, “Statement by the President on ISIL,” transcript, September 10, 2014e.


3 As of July 2021, OIR remains an active named operation. However, there is no longer a need to support larger ground maneuvers. Rather, the operation consists of supporting the development of local forces and occasional strikes against the ISIS network.
force elements’ deployments. In addition, such high-profile military engagements as Eagle Strike, the operation to liberate Mosul, have generated analysis. Some of those who deployed to OIR have written useful—but often narrow—after-action reports; others have reflected more broadly on their experiences in such outlets as *Joint Force Quarterly* and such organizations as the Center for Army Lessons Learned and the Marine Corps Center for Lessons Learned. Apart from the land domain, the application of airpower in OIR is also generating scholarly interest, but an emphasis on the OIR air campaign may reinforce the perception that U.S. ground forces were not an integral component of the fight.

To fill this void, we present here an operational history of U.S. ground force contributions to OIR and an examination of key warfighting functions during the operation. The primary purpose of this research is historical: Our goal is to document how U.S. Army and U.S. Marine Corps personnel contributed to OIR. Having established an empirical basis for what those contributions were, we then provide some suggestions for how these experiences might inform the development of doctrine around the concept of *by, with, and through*, which is the umbrella term used to describe the operational approach employed in OIR. Our second goal in this report is to provide a historical account of the operation for use by practitioners (e.g., military planners) and other researchers regarding key insights and takeaways,

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6 See multiple contributions in *Joint Force Quarterly*, Vol. 89, 2nd Quarter, 2018. We also reviewed some Marine Corps Center for Lessons Learned reports related to OIR that are not available to the general public.

or for incorporation as a case informing broader work on counterterrorism (CT), stabilization, foreign internal defense (FID), and related topics.

Report Structure

Our report begins with a treatment of the by, with, and through concept, around which U.S. ground forces operated as part of OIR in both Iraq and Syria. For readers who closely followed OIR as it unfolded, that term will be familiar. It refers to the United States intervening as part of a larger coalition while relying on local partners to do frontline ground fighting. Although the concept has entered the popular national security lexicon, it has not been officially formalized in military doctrine. Chapter Two of the report, therefore, examines current definitions of the concept of by, with, and through, its origin, and its relationship to other related concepts. The chapter further probes why the concept was selected by the Barack Obama administration and continued under the Donald J. Trump administration as a fundamental characteristic of the intervention, as well as its possible incorporation into service-level and joint doctrine.

In Chapter Three, we provide a short overview of the command structure for OIR. This background explains how the U.S. Army and U.S. Marine Corps units we reference in subsequent chapters were organized within the larger command charged with overseeing the operation—Combined Joint Task Force (CJTF)-OIR. At a minimum, readers should come away from this chapter understanding how the U.S. Army Brigades and Special Purpose Marine Air-Ground Task Forces (SPMAGTFs) related to the 2-star Combined Joint Forces Land Component Command (CJFLCC) and how that command related to the 3-star CJTF-OIR command.

In Chapters Four through Seven, we take deep dives into four important operations within OIR in Iraq: the liberation of Ramadi; the liberation of Fallujah; the operation to set the conditions for the liberation of Mosul; and, finally, the urban fight within East and West Mosul. Each chapter is structured similarly. We begin with a narrative account of the liberation of the town or territories under consideration. These narratives address the strategic importance of the operations therein, identify which Iraqi forces participated as the ground element, describe how the fight progressed—
including ISIS resistance—and, finally, characterize the outcomes of each operation. Having documented the operation’s broader narrative in this manner, we then provide a thematic treatment of U.S. ground force contributions centered on key warfighting functions. These functions are training and advising, the provision of surface fires, close combat attack (CCA), and engineering. Because U.S. ground force contributions varied by operation, the specific themes covered in each chapter also vary.

We conclude by returning to the overall by, with, and through concept and, using Chapters Four through Seven as a basis, provide recommendations for how the U.S. Army, the U.S. Marine Corps, and the joint force might incorporate this construct into doctrine. Doctrine should be based on a thorough understanding of past experiences of by, with, and through and on future contingencies necessitating the application of the concept. Although our reflections are primarily drawn from OIR—a single treatment or application of the concept—we highlight important aspects for consideration as the Army considers the formulation of doctrine on by, with, and through.

Research Approach

Our original vision anticipated producing an operational history of U.S. ground force contributions to OIR that described operations in both Iraq and Syria. Ultimately, we were not able to cover operations in Syria as part of this report. Operations in Syria were largely conducted under Combined Joint Special Operations Task Force (CJSOTF) Syria, the details of which are not public. To meet our objective of providing a publicly available historical review of OIR, we focused exclusively on Iraq, understanding that doing so would leave a gap in how U.S. ground forces, especially U.S. Army Special Forces (SF), contributed to OIR inside Syria.

Within Iraq, our focus was on four key episodes or cases (Ramadi, Fallujah, setting the conditions for Mosul, and the Mosul urban fight). Our case study selection was motivated by several considerations. First, we wanted to treat the main geographical areas within Iraq where OIR occurred—the Euphrates River Valley and the Tigris River Valley. Our cases provide two instances in the former and two in the latter. Second, we sought to profile
operations at different phases in the overall campaign. This is important because the level and nature of U.S. ground force efforts varied over time. Early contributions focused on generating and training Iraqi forces for the fight; later phases emphasized U.S. advising and U.S. enablers for major liberation operations. In addition, there were considerable U.S. policy restrictions on the types of activities that U.S. personnel were permitted to be involved in, and there were restrictive force caps. As the operation unfolded, U.S. ground force contributions expanded, encompassing the delivery of surface fires, the provision of CCA, and advising at lower echelons. Force caps were also raised, increasing the number of U.S. ground force personnel in the fight. Treating cases over time enabled an exploration of the evolution of the mission.

We relied on three primary inputs. The first was interviews with soldiers and marines who deployed as part of the operation. To that end, we conducted 45 interviews with U.S. Army and U.S. Marine Corps personnel. Although our interview sample focused on field-grade officers (O-4 to O-6), we also spoke with several general officers, including 2- and 3-star commanders and captains (a rank of O-3 in the U.S. Army and Marine Corps), and with enlisted personnel. The majority of the interviews correspond to the three successive advise-and-assist (A&A) task forces (TFs) that were on the ground during our four case studies. These are TF Warrior, made up of the 1st Brigade Combat Team (BCT) from the 10th Mountain Division (DIV); TF Strike, made up of the 2nd BCT from the 101st Airborne DIV; and TF Falcon, made up of the 2nd BCT from the 82nd Airborne DIV.

In addition to our own interviews, we had access to three other sets of interviews with OIR personnel. The U.S. Army Military History Institute and the Mosul Study Group both conducted interviews with U.S. personnel deployed for OIR. Each graciously shared their interview material with us. Additionally, we interviewed several commanders jointly with a RAND Project AIR FORCE project documenting the use of airpower in Iraq during OIR. With all these interview sets combined, we leveraged a total of 85 interviews to inform the chapters presented here.

The second input we relied on was official and journalistic accounts of the main operations featured in our history. Specifically, we used press briefings from the CJTF, typically consisting of battlefield developments and question-and-answer sessions with journalists. In addition, we con-
sulted the regular updates released by the Iraqi Joint Military Operations Command or regional commands (e.g., the Ninewa Operations Command). Although not as detailed as the CJTF-OIR briefings, these updates often provided more-specific accounting of the Iraqi units involved in various clearing operations. In addition to these official accounts, we consulted newspaper articles from U.S., European, and Iraqi media that detail specific battles or the introduction of new capabilities brought to bear during the evolution of operations. This input was crucial for establishing the timeline of events, which interviewees sometimes only recall imprecisely, and for confirming the actors involved in operations.

The third set of inputs we leveraged for the research was after-action reports and reflections of returned personnel from OIR. Several soldiers and marines documented their experiences in such reports and in journal articles. Less frequently, a unit drafted a short deployment history. These inputs alone are insufficient to construct an operational history, but they do provide useful firsthand accounts that, coupled with interviews and official and journalistic products, offer a strong basis to produce a thorough account of operations. We are mindful that we were unable to speak with Iraqi personnel. This was because we wrote this report while many of the key Iraqi units were still involved in security operations limiting their availability, the presence of Iranian-backed Popular Mobilization Units created physical risks for site visits, and more than half the research period was during the coronavirus disease 2019 pandemic. Given these constraints, the findings and interpretations we present here should be seen as representing only one side of the voices and participants of OIR.
CHAPTER TWO

What Is *By, With, and Through*?

The U.S. campaign to degrade and defeat the Islamic State has brought the phrase *by, with, and through* into common military parlance and revived long-standing debates over partnered and surrogate operations. Through a review of U.S. Army and joint doctrine, defense publications, and public statements by defense leaders, this chapter traces the evolution of the concept (along with its common variants “through, with, and by” and “with, through, and by”) and highlights changes in its definition and application over the nearly two decades of its use. In part because of its demonstrated value, the by, with, and through concept has been associated with an array of partnered and surrogate activities, but it is neither a distinct operational mission nor a doctrinal practice. Rather, current U.S. Department of Defense (DoD) guidance suggests that the concept is a flexible process of interaction applicable to several small-footprint operations and related combat and advisory missions. Therefore, we next evaluate the adequacy of DoD guidance on the term and explain how the concept differs or applies to related missions, programs, and activities, such as FID and security force assistance (SFA). We conclude with a discussion of the emerging concept of a by, with, and through operational approach and its application to the counter-ISIS campaign.


The evolution of the by, with, and through concept over time parallels the broader expansion in the scale, scope, and strategic significance of U.S.
efforts to build foreign security forces. The term was first coined in the early 1990s to identify and defend the Army SF practice of partnered and surrogate operations during a review of SF’s unconventional warfare (UW) mission, which was defined in U.S. Army doctrine at the time as “a broad spectrum of military and paramilitary operations . . . predominantly conducted by indigenous or surrogate forces who are organized, trained, equipped, supported, and directed in varying degrees by an external source.” But as changes in the strategic environment increased the demand for forces capable of training, advising, and assisting foreign partners—and as the United States increasingly prioritized building partner nations’ military capacity over deploying U.S. combat forces—the concept’s meaning expanded to match emerging political, institutional, and strategic realities. As a result, DoD guidance, official statements, and other records released since the term’s first appearance suggest multiple, and at times inconsistent, definitions. By the time the phrase with, through, and by was defined in joint doctrine in 2017, its meaning bore little resemblance to its conceptual origins.

Once intended to delineate unconventional missions conducted by Special Operations Forces (SOF) from activities by other units or in pursuit of other missions, the term now connotes a general process of interaction with foreign security forces that can be undertaken by conventional forces, SOF, and

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1 Field Manual (FM) 31-20, **Doctrine for Special Forces Operations**, Washington, D.C.: Headquarters, Department of the Army, April 20, 1990, p. 3-1. This definition for unconventional warfare, which explicitly “includes guerrilla warfare (GW) and other direct offensive low-visibility, covert, or clandestine operations, as well as the indirect activities of subversion, sabotage, intelligence collection, and evasion and escape,” differs from DoD’s current definition as a synonym for subversion and entailing “activities conducted to enable a resistance movement or insurgency to coerce, disrupt, or overthrow a government or occupying power by operating through or with an underground, auxiliary, and guerrilla force in a denied area” (Joint Publication (JP) 1-02, **DOD Dictionary of Military and Associated Terms**, Washington, D.C.: U.S. Joint Chiefs of Staff, June 2020, p. 223). On the origins of the term through, with, and by, see Mark D. Boyatt, **Unconventional Operations Forces of Special Operations**, study project, Carlisle, Pa.: U.S. Army War College, 1993; and Mark D. Boyatt, “Unconventional Operations Forces of Special Operations,” **Special Warfare**, Vol. 7, No. 3, October 1994.

nonmilitary government entities over the course of a variety of missions, such as SFA, CT, and FID.

**U.S. Security Assistance: A Brief History**

The U.S. military’s practice of training, equipping, advising, and assisting foreign partners long predates the by, with, and through formulation. Over the 19th century, the U.S. Army recruited American Indian tribes to defend settler communities, leveraging local forces and preserving the regular force’s limited manpower. Confronted with an insurgency in the Philippines in 1901, the Army again organized and tasked a local militia, the Philippine Constabulary, to restore order. These practices were institutionalized during World War II, when the Office of Strategic Services established so-called Operational Groups to “organize and supply guerrilla bands, gather intelligence, and carry out commando operations behind enemy lines” in Europe.\(^3\) Together with a parallel unit, the Jedburgh Teams, these covert forces provided arms and ammunition; logistical, operational, and tactical training; and support for local partisans—foreshadowing practices later refined during the Cold War, when the United States supported local anti-communist militias and paramilitaries across the Global South.\(^4\)

DoD’s emphasis on partnered and surrogate operations waxed and waned over time, but funding and institutional support for the practice continued to expand over the next six decades. The Cold War spurred the development of

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an array of practices to strengthen foreign security forces’ capacity to counter the Soviet Union, deter or defend against internal and external communist pressure, and promote U.S. interests internationally. Since 1961, when Congress authorized military and other security assistance, the U.S. Department of State has been tasked with funding oversight and “continuous supervision and general direction” to these programs. Following the articulation of the Nixon Doctrine in 1969 and the publication of a dedicated doctrine on FID in 1976, however, Congress gradually expanded DoD’s authority to train, equip, and otherwise assist foreign military and other security forces directly. The Global War on Terror prompted a second period of expansion in the scale and scope of DoD programs to build, advise, and strengthen foreign security forces, producing a “broad set of missions, programs, activities, and authorities intended to improve the ability of other nations to achieve those security-oriented goals.” From the 2006 Quadrennial Defense Review, to the 2012 Defense Strategic Guidance, to the 2018 National Defense Strategy, DoD has consistently continued to prioritize building the institutional capacity of partner nations to share the costs and responsibilities of global leadership.

The Evolution of “Through, With, and By” as a Special Operations Force Practice, 1993–2003

The concept of “through, with, and by” originated within the U.S. Army SF in the early 1990s. Since the activation of the 10th SF group in 1952 to “organize, equip, train, control, and direct the indigenous potential” of

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5 U.S. Code, Title 22, Section 2752, Coordination with Foreign Policy.


guerrilla and resistance movements in North Korea, SF had “evolved into a low cost and low footprint unconventional force—organized, trained, and equipped to advise, assist, and train U.S. surrogates . . . and to counter Soviet-sponsored aggression in the developing world.”9 The Soviet Union’s collapse and a series of humanitarian and peace operations over the early 1990s, however, generated new debate over the continued relevance of SF’s UW mission. In turn, the Army vetted proposals to revamp the SF curriculum and reduce UW training exercises to instead prioritize the component’s special reconnaissance (SR), direct action (DA), FID, and CT missions.10

The Army’s effort to deprioritize UW prompted a backlash from those who saw the loss of a traditional mission as a harbinger of deeper cuts to the SF component. Prominent voices within the SF community, such as COL Mark Boyatt, assistant commandant of the JFK Special Warfare Center and School, argued that the reforms endangered SF’s traditional function at a time when “the Army [was] planning to become more SOF-like” through the Army After Next initiative.11 “In the not-too-distant future, conventional forces will achieve the capability of conducting unilateral DA, SR and CT missions . . . anywhere; and with agility, speed and precision,” he predicted.12 To preserve the branch’s distinct function, Boyatt proposed that

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SF embrace a new “core purpose” rooted in its history of “accomplish[ing] . . . missions through, with or by indigenous populations.” As he first outlined in a 1993 Army War College study and elaborated in later contributions to Special Warfare, this practice constituted a “never-changing” set of structures and skills that could be applied “regardless of changing strategies” and “regardless of a changing world.” By embracing its history of training, advising, and fighting alongside indigenous partners and surrogates as its “core purpose,” SF could maintain its distinctive organizational identity within the Army and the wider SOF community and ensure its continued institutional independence. Although other SOF components competed for unilateral missions, and some implemented noncombat operations alongside indigenous partners, Boyatt forecast “only the how—accomplishing these missions through, with or by indigenous populations—will remain unique to SF.”

The notion that SF was the only component trained, equipped, and oriented to work “through, with, or by” foreign partners circulated within the SF community until the Global War on Terror created a new and urgent demand. Between 2001 and 2003, SF were employed “on a scale not seen since the Vietnam War,” one commentator noted, prompting “a renaissance [in] unconventional warfare.” From organizing and assisting the Northern Alliance in Afghanistan to leveraging the Kurdish Peshmerga in northern Iraq and advising and assisting the Armed Forces of the Philippines in

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operations against the Abu Sayyaf Group, SF and other SOF units increasingly were called on to assist conventional operations, advise CT partners, and provide training and other support. Even as DAs increased, U.S. Special Operations Command embraced surrogate and partnered warfare as a “long-standing SOF mission,” as Gen Charles R. Holland, commander of the U.S. Special Operations Command, testified before the Senate Armed Services Committee.\(^\text{18}\)

Correspondingly, the phrase *through, with, and by* appeared in special operations doctrine for the first time in 2003. In an affirmation of the premise that UW was a core SOF mission, JP 3-05 described the practice as

> Operations that involve a broad spectrum of military and paramilitary operations, normally of long duration, *predominantly conducted through, with, or by indigenous or surrogate forces* who are organized, trained, equipped, supported, and directed in varying degrees by an external source. UW is unique in that it is a SO [special operation] that can either be conducted as part of a geographic combatant commander’s overall theater campaign, or as an independent, subordinate campaign. When conducted independently, the primary focus of UW is on political-military objectives and psychological objectives. UW includes military and paramilitary aspects of resistance movements. UW military activity represents the culmination of a successful effort to organize and mobilize the civil populace against a hostile government or occupying power. From the U.S. perspective, the intent is to develop and sustain these supported resistance organizations and to synchronize their activities to further U.S. national security objectives. SOF units . . . advise, train, and assist indigenous resistance movements already in existence to conduct UW and when required, accompany them into combat. When UW operations support conventional military operations, the focus shifts to primarily military objectives.\(^\text{19}\)


JP 3-05 also updated the definition of special operations to stipulate:

Operations conducted in hostile, denied, or politically sensitive environments to achieve military, diplomatic, informational, and/or economic objectives employing military capabilities for which there is no broad conventional force requirement. . . . Special operations are applicable across the range of military operations. They can be conducted independently or in conjunction with operations of conventional forces or other government agencies and may include operations through, with, or by indigenous or surrogate forces. Special operations differ from conventional operations in degree of physical and political risk, operational techniques, mode of employment, independence from friendly support, and dependence on detailed operational intelligence and indigenous assets.\(^{20}\)

In this context, through, with, and by connoted an exclusive SOF practice of partnering with foreign actors. The phrase was related to SOF’s UW mission but was not limited to specific tactical, operational, or strategic objectives; to the contrary, later sections urged caution “against limiting UW to a specific set of circumstances or activities.”\(^{21}\) In this usage, a through, with, and by approach could connote the use of foreign partners or surrogates during the conduct of a broad variety of kinetic and nonkinetic unconventional activities, such as subversion, sabotage, the collection and assessment of intelligence, the advising of guerrilla forces in combat, the dislocation of conventional adversarial forces, and the establishment and conduct of an interim military government or civil administration, among others outlined in the publication.\(^{22}\) In short, the concept required only two components: the existence of a foreign actor (whether a partner or a surrogate) and the involvement of U.S. SOF.


With, Through, and By as a Process of Interaction, 2013–2017

Once incorporated in joint doctrine, the phrase was soon reappropriated beyond the SOF context. Over the subsequent decade, prolonged counterinsurgency (COIN) and nation-building campaigns in Iraq and Afghanistan required the U.S. military to refine and adapt new strategies to build, advise, and enable local security forces. The scope and scale of the challenge required equipping regular and reserve units to shoulder missions once reserved for SOF, blurring the line between conventional and unconventional units. As training and advising foreign forces became a core competency expected of all services, defense leaders seized on the simple but evocative phrase—now often reordered as by, with, and through or with, through, and by—as a synonym for COIN; a shorthand for irregular warfare; and, more broadly, an antonym to unilateral action. The 2006 COIN field manual advised all commanders to “work with, through, or around” local and community groups; a Joint Operating Concept on irregular warfare described the imperative to operate “globally through, by, and with state and non-state partners” who were “indigenous or surrogate”; and U.S. Joint Forces Command and U.S. European Command both voiced prefer-


24 See, for instance, FM 3-24’s stipulation that “[w]hile FID has been traditionally the primary responsibility of the special operations forces (SOF), training foreign forces is now a core competency of regular and reserve units of all Services” (FM 3-24, Counterinsurgency, Washington, D.C.: Headquarters, Department of the Army, 2006, pp. 6–12). Extending the logic, others proposed standing up a dedicated core organized to advise, train, and assist foreign military forces’ officers (John A. Nagl, Institutionalizing Adaption: It’s Time for a Permanent Army Advisor Corps, Washington, D.C.: Center for a New American Security, Future of the U.S. Military Series, June 2007). More generally, the 2006 Quadrennial Defense Review endorsed the call for “multipurpose forces to train, equip, and advise” and “deploy and engage with partner nations” (DoD, 2006, p. 23). The principle spurred the creation of the Joint Center for International Security Force Assistance in 2006.
ences for “operations by, with, and through” foreign actors over “unilateral U.S. actions.”

By the late 2000s, the phrase now meant different things to different people. For SF, through, with, and by still connoted an exclusive method of unconventional operations with foreign partners. In an effort to reclaim the concept, the 2008 edition of FM 3-05.130 (Army Special Operations Forces Unconventional Warfare) specified that the use of the phrase “by, with, or through” was intended to “establish a ‘litmus test’ for clearly differentiating UW from other activities” and “eliminate any confusion with unilateral direct action (DA), special reconnaissance (SR), counterterrorism (CT) missions,” or “foreign internal defense (FID) or coalition activities using regular forces.”

In common military parlance, however, the term connoted any surrogate or partnered activity regardless of the forces involved, the desired objective, or the nature of the foreign party. Rather than a practice specific to UW, the phrase referenced a general process of interaction that could be implemented during any operation that required training, advising, supporting, or coordinating with foreign entities. Under this colloquial use, a FID program to train Afghan police, a CT raid requiring coordination with the Iraqi Security Forces (ISF), and a partnered stability operation were all considered illustrations of a by, with, and through approach, regardless of exist-


What Is by, With, and Through?

What Is by, with, and through doctrine that clearly placed these activities outside the concept’s scope. Describing U.S. operations south of Baghdad in 2008, for instance, Army BG Jeffrey Buchanan, deputy commanding general for operations for the Multinational Division Center, explained that U.S. forces broadly “operate by, with and through the Iraqi forces throughout our [operating environment]. . . . And so it is not us—the coalition forces—securing the Iraqi population; it’s the coalition forces, in partnership with the Iraqis, securing the Iraqi population.”

The 2008 U.S.-Iraqi Status of Forces Agreement, in which the United States pledged “to ensure maximum efforts to work with and through the democratically elected Government of Iraq,” lent new weight to this broader colloquial interpretation. As the military prepared to transition to an A&A mission under Operation New Dawn, U.S. defense officials routinely used the phrase to signify compliance with the agreement; emphasize combined operations with the ISF; underscore coordination among U.S., Iraqi, and international civilian entities; and connote respect for Iraqi law. As BG Keith Walker, Commander of the Iraq Assistance Group, Multi-National Corps–Iraq, com-


mented to reporters, “The provisions of the Security Agreement make our partnership with Iraqi Security Forces that much more important . . . all operations are conducted by, with, and through the Iraqi Security Forces” and “characterized by combined planning, preparation and execution with Iraqi Security Forces in the lead.”

The 2010 publication of DoD Instruction (DODI) 5000.68 (Security Force Assistance) lent much-needed clarity. The instruction, published a month after U.S. combat operations in Iraq ended, provided the first explicit definition of with, through, and by as

a process of interaction with foreign security forces that initially involves training and assisting (interacting “with” the forces). The next step in the process is advising, which may include advising in combat situations (acting “through” the forces). The final phase is achieved when foreign security forces operate independently (act “by” themselves).

The new definition, which was later enshrined in JP 3-20 (Security Cooperation), introduced three new connotations. First, it associated the with, through, and by concept with a prescribed objective—specifically, an improvement in a foreign security force’s ability to operate independently.


33 DODI 5000.68, Security Force Assistance (SFA), Washington, D.C.: U.S. Department of Defense, October 27, 2010, p. 19. An Army SFA field manual published a year earlier listed by, with, and through as a “specific mindset” required for SFA and one of ten considerations for soldiers serving with FSF, stating:

All planned operations of a combat advisory mission must be conducted by, with, and through the FSF. . . . mark of an effective advisory effort is the amount of personal involvement the FSF take in their own operations. Civilians must see that they are secured by their own security forces to promote the legitimacy of the host nation and their capacity and to build trust and confidence. In a word, combat advisors are shadows whose presence is felt at all times. . . .

Although this definition is less precise than the one provided in DODI 5000.68, the phrase’s use in association with SFA demonstrates the semantic link between by, with, and through and “with, through, and by.” (FM 3-07.1, Security Force Assistance, Washington, D.C.: Headquarters, Department of the Army, May 2009, pp. 2-1 and 7-1, respectively)

Second, its inclusion within an instruction on SFA implied that the process could be applied to combat and noncombat operations undertaken by both military and civilian entities, stripping SOF’s exclusive claim to the practice and dramatically expanding the scope of relevant activities. “SFA can occur across the range of military operations and spectrum of conflict as well as during all phases of military operations. These efforts shall be conducted with, through, and by foreign security forces,” the directive stipulated, adding that the activities “shall be conducted primarily to assist host countries to defend against internal and transnational threats to stability” but could also encompass efforts to “assist host countries to defend effectively against external threats; contribute to coalition operations; or organize, train, equip, and advise another country’s security forces or supporting institutions.” Despite its appearance in an instruction on SFA, however, the definition text does not preclude other missions that require interacting with foreign security forces, directly contradicting FM 3-05.130’s use of the term as specific to the UW mission.

In addition to establishing a common definition in keeping with common usage, DODI 5000.68 aligned the with, through, and by concept with the political and institutional realities of the time. By 2010, the demands for SOF trainers and advisers had begun to exceed the community’s supply, forcing DoD to begin “building the capacity and capabilities of the general purpose forces to be prepared to take on more of the kinds of missions that used to fall exclusively to” SOF. These pressures intensified after the passage of the Budget Control Act of August 2011, which sequestered 7.7 percent of defense spending, and the January 2012 release of new strategic guidance directing a rebalance toward the Pacific region and a redistribution of CT resources from DA to SFA programs. “As resources decrease and American forward presence in the region declines, mil-to-mil engagements and working by, with, and through our partners will become

36 Kathleen H. Hicks, “Advance Questions for Dr. Kathleen H. Hicks, Nominee for Principal Deputy Under Secretary of Defense for Policy,” U.S. Senate, April 26, 2021, p. 48; Derek H. Chollet, nomination to be Assistant Secretary of Defense for International Security Affairs, U.S. Senate, Armed Services Committee, April 26, 2012.
37 DoD, 2012.
increasingly important,” Gen James Mattis, then–Commander U.S. Central Command (CENTCOM), underscored during testimony before the Senate Armed Services Committee in 2013.38

The codification of “with, through, and by” in joint doctrine reflected this broader desire to preserve U.S. resources for emerging priorities, such as strategic competition with peer and near-peer states. “Look, we can’t put—shouldn’t put American boots on the ground anywhere we find [violent extremist] groups,” GEN Martin Dempsey, Chairman of the Joint Chiefs of Staff, explained during a 2013 radio interview. “Rather, we really need to work by, with, and through partners. And so we are increasing our efforts . . . to work with host nations to . . . steel-plate them” against internal and transnational threats.39 Civilian officials echoed the assessment. “We cannot rely solely on precision strikes to defeat enemy networks and foster stability—these operations buy us time but do not provide a lasting solution,” Assistant Secretary of Defense for Special Operations and Low Intensity Conflict and Interdependent Capabilities Michael A. Sheehan elaborated during congressional testimony. “Ultimately, the decisive battle to defeat these groups must be fought and won ‘by, with and through’ host nation efforts. We must now transition to a period with partners in the lead.”40


By associating the by, with, and through concept with the general practice of training, equipping, and advising foreign state security forces, DODI 5000.68 and JP 3-20 inverted the concept’s original meaning. Once intended to delineate unconventional missions conducted by SOF from activities by other units or in pursuit of other missions, the term now connotes a process of interaction that could involve a broad variety of government and military entities and programs. In practice, SOF remain the provider of choice, but the phrase subsequently was removed from all published guidance on special operations and UW. In an explanatory note on the phrase’s elimination from revised editions of JP 3-05, the Special Warfare bulletin noted that “through, with, or by” had “been turned into a stock phrase of “. . . by, with and through . . . Melodious or not, and regardless of its popularity, this phrase is not an element of official doctrine, and is not to be used with regard to anything concerning UW.”

The publication of a formal definition has not curtailed the continued colloquial use of the phrase as a synonym for partnered and surrogate operations writ large, however. The durability of the term’s association with SOF is one illustrative example. Though the DoD definition clearly states that the practice is not exclusive to special operations—and despite the fact that the term was intentionally excised from the definition of UW and special operations writ large—the concept remains popularly associated with SOF, which, in practice, remain the actors of choice to build partner capacity, support FID, and develop professional foreign security forces.

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41 Jeffrey Hasler, “Through or With: A UW Refresher,” Special Warfare, Vol. 26, No. 1, January–March 2013, p. 5 (emphasis original). “Through, with, and by” appears in every entry for “unconventional warfare” and “special operations” in the various iterations of JP 1-02 released between October 2004 and January 2011. The commander of U.S. Special Operations Command approved a new definition of UW in June 2011, which was integrated into later versions of JP 1-02 and of JP 3-05 (see JP 3-05, Special Operations, Washington, D.C.: U.S. Joint Chiefs of Staff, July 16, 2014). Instead, the phrase “with and/or through” appears to reference partnered and surrogate efforts, respectively.

42 For illustrative colloquial examples, see Michael A. Sheehan, statement before U.S. Senate, Armed Services Committee, Emerging Threats and Capabilities Subcommittee, April 9, 2013; and Seth G. Jones, statement before U.S. House, Foreign Affairs Committee, Terrorism, Nonproliferation, and Trade Subcommittee, April 8, 2014.
Differentiating *With, Through, and By*: Challenges and Gaps in the Existing Definition

In its JP on SC, DoD defines *with, through, and by* as a practice of interaction between U.S. entities and foreign security forces undertaken to support the latter’s capacity to act independently of external assistance. Featured in the definition are two categories of activities: (1) providing assistance and training and (2) advising, which is implied to encompass combat and noncombat situations. The definition’s inclusion within guidance on SFA implies a relationship, but the text does not delineate the concept as a process unique to SFA activities.43 To the contrary, the use of the term, and its two related variants, in versions of Army and joint doctrine on COIN and stability operations published since 2010 indicates its potential application to other contexts.44

The brevity of the existing definition relative to the concept’s implied scope leaves several issues unaddressed. First, it does not specify the U.S. actor, suggesting that U.S. military and government entities may be involved in the relevant training, advising, and assistance activities. Similarly, it does not specify a distinction between activities that are authorized under Title 22 of the U.S. Code and supervised by the State Department and those that DoD is authorized to manage independently. Third, the definition does not specify the conditions that necessitated the initial provision of assistance; therefore, it may be read as applying to any activity designed to strengthen a foreign security force’s ability to independently (a) address internal and external threats, (b) build defense relationships, (c) develop friendly military capabilities for self-defense and multinational operations, or (d) provide U.S. forces with peacetime and contingency access. Together, these ambiguities substantially broaden the concept’s potential application.

Nonetheless, the DODI 5000.68 definition imposes three constraints. First, it requires the existence of a foreign security force, which 10 U.S.C. § 301(6) defines as any “national military and national-level security forces

of the foreign country that have the functional responsibilities” for CT operations, counter–weapons of mass destruction operations, counter–illicit drug trafficking operations; counter–transnational organized crime operations; maritime and border security operations; military intelligence operations; or operations and activities that contribute to an international coalition operation determined by the Secretary of Defense to be in the national interest.\(^{45}\) In practice, this could involve foreign national militaries; national and subnational police forces and gendarmeries; border police, coast guard forces, and customs officials; paramilitary forces; prison, correctional, and penal service forces; infrastructure protection forces; and governmental ministries or departments related to the previous forces, among other organizations.\(^{46}\) The definition implies but does not specify that the foreign security forces must have existed prior to U.S. assistance. It therefore excludes activities designed to organize new forces or institutions.

Second, the definition’s description of “steps” in the process implies that all three activities—training, assisting, and advising—be sequenced from least to most autonomy for the foreign security forces. This differs from the original through, with, and by concept, which framed the underlying activities as a menu of options that could be used independently or in combination as needed.\(^{47}\) Lastly, the final line implies that the activities must seek to improve a foreign security force’s capacity and capability to conduct the designated operation independently.

A review of Army and joint doctrine on related concepts suggests that several activities and tasks associated with preexisting missions and operations qualify as with, through, and by processes of interaction. These include the following:

- **foreign assistance.** As defined in JP 3-0, *foreign assistance* consists of “assistance to foreign nations ranging from the sale of military equipment and support for foreign internal defense to donations of food and

\(^{45}\) U.S. Code, Title 10, Section 301, Definitions; U.S. Code, Title 10, Section 333, Foreign Security Forces: Authority to Build Capacity.


\(^{47}\) Dalphonse, Townsend, and Weaver, 2018.
medical supplies to aid survivors of natural and man-made disasters that may be provided through development assistance, humanitarian assistance, and security assistance.\textsuperscript{48} Within this category, actions that require interaction with foreign security forces for the express purpose of building their capacity or capability to operate independently may be described as with, through, and by missions, activities, and tasks. However, foreign assistance pursues a variety of other objectives that fall outside this scope. For instance, programs to distribute humanitarian aid for the primary purpose of mitigating the effect of a population crisis or national disaster, even if they require interaction with foreign security forces, do not qualify for the phrase.

- SC. SC encompasses all “DOD interactions with foreign defense establishments to build defense relationships that promote specific U.S. security interests, develop allied and friendly military capabilities for self-defense and multinational operations, and provide U.S. forces with peacetime and contingency access to a host nation.”\textsuperscript{49} It encompasses indirect support (e.g., employing SA, military exchange programs, and joint and multinational exercises), direct, noncombat support (e.g., assisting civil-military operations; military information support operations; communications and intelligence cooperation, mobility, and logistic support), and combat operations.\textsuperscript{50} With, through, and by, therefore, can describe the process of interaction intrinsic to specific SC instruments (such as military engagements with foreign defense and security establishments or DoD-administered SA programs) that seek to improve a foreign security force’s capacity or capability to operate independently. SC activities that serve to build relationships; gain access to territory, infrastructure, information, and/or resources; improve a foreign security force’s ability to perform disaster or emergency response functions; or are otherwise outside the security sector fall outside the term’s scope.\textsuperscript{51}

\textsuperscript{48} JP 3-05, 2014.
\textsuperscript{49} JP 3-22, 2018.
\textsuperscript{50} JP 3-20, 2017.
• **SFA.** DODI 5000.68 specifies that SFA efforts to “support the professionalization and the sustainable development of the capacity and capability of the foreign security forces and supporting institutions of host countries, as well as international and regional security organizations” are conducted as with, through, and by activities with foreign security forces. The concepts are neither synonyms nor subsets of each other, however: SFA refers to a set of activities; with, through, and by connotes the process by which these activities are conducted.\(^{52}\)

• **COIN.** Although the with, through, and by concept is popularly associated with COIN operations, the purposes of the underlying interactions differ. As described in JP 3-20, COIN is “the comprehensive civilian and military effort designed to simultaneously defeat and contain insurgency and address its root causes,” and it is “primarily a political struggle and incorporates a wide range of activities by the HN [host nation] government of which security is only one.”\(^{53}\) Although COIN operations might involve efforts to train, advise, and support foreign security forces, interactions that seek primarily to defeat or contain the insurgency rather than to build foreign security forces’ capacity and capabilities should not be described as with, through, and by interactions.\(^{54}\)

• **antiterrorism and CT.** Defensive antiterrorism and offensive CT operations that might require coordination with foreign security forces but

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\(^{52}\) JP 3-22, 2018; DODI 5000.68, 2010; Joint Chiefs of Staff, “Universal Joint Task List,” January 2020, SN 8.1.16 and OP 8.12.


\(^{54}\) In their analysis of the concept’s application during OIR, Michael X. Garrett, William H. Dunbar, Bryan C. Hilferty, and Robert R. Rodock distinguish by, with, and through from COIN on the grounds that “fighting BWT [by, with and through] is not fighting counterinsurgency. Rather, fighting BWT is to prevent the rise of an insurgency at the conclusion of operations.” This temporal distinction is not reflected in the term’s current definition, which does not distinguish the character of the threat confronting a foreign security force and therefore is ambivalent on the distinction between imminent and long-term dangers. Michael X. Garrett, William H. Dunbar, Bryan C. Hilferty, and Robert R. Rodock, “The By-With-Through Approach: An Army Component Perspective,” *Joint Force Quarterly*, Vol. 89, 2nd Quarter, 2018, p. 51.
are undertaken without the clear and express intent to build partners’ capabilities or capacity do not qualify as with, through, and by interactions. U.S. efforts to professionalize CT personnel, improve a security force’s ability to plan and conduct antiterrorism and CT operations, and provide direct advising during antiterrorism and CT operations are illustrative examples of actions that likely involve a with, through, and by component.

- **defense institution building.** A subset of SC, *defense institution building* refers to programs and activities “conducted to establish or reform the capacity and capabilities of a partner nation’s defense institutions at the ministerial/department, military staff, and service headquarters levels.”

  By definition, these programs require interaction between U.S. entities and foreign security forces or supporting institutions. However, several defense institution building program objectives—such as promoting security sector reform and principles of effective, accountable, transparent, and responsive defense institutions; contributing to broader security-sector reform initiatives; and promoting efforts to support and complement broader U.S. national security and security sector assistance goals—are not alone sufficient to meet the with, through, and by standard of strengthening a foreign security force’s operational capabilities and capacity. Efforts that pursue two other programmatic objectives—to “enhance allied and partner capability and capacity to manage and sustain armed forces consistent with the principles of good governance and the rule of law” and to “increase a partner nation’s ability to organize, administer, and oversee its defense institutions to meet its security needs and contribute to regional and international security more effectively”—expressly qualify.

- **FID.** Commonly associated with by, with, and through processes, *FID* is defined in joint doctrine as the “participation by civilian agencies and military forces of a government or international organizations in any of the programs and activities undertaken by a host nation government to free and protect its society from subversion, lawlessness, insurgency,

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terrorism, and other threats to its security."\textsuperscript{57} FID operations to train, advise, and support foreign security forces qualify as with, through, and by interactions, but any activities involving civilian institutions and other entities are beyond the scope of the concept. Conversely, interactions with, through, and by foreign security forces to address external threats to a host nation do not qualify as FID activities.

- \textbf{stability operations.} Army stability doctrine clearly states “that many stability operations should be executed by, with, and through the host nation, other external partners, or USG [U.S. government] departments and agencies, with U.S. military forces providing support as required.”\textsuperscript{58} Because a with, through, and by process requires interaction with a foreign security force, it may be used to describe stability operations to support a host nation or interim government but excludes instances in which no government exists. Stability tasks that seek to promote social well-being, a sustainable government, democratic institutions, or a viable market are also outside the concept’s scope.\textsuperscript{59}

In recent years, there has been a push to establish a commonly understood definition of by, with, and through and to develop a core set of its precepts.\textsuperscript{60} Despite the concept’s widespread use, there are no standard guidelines for implementation at the tactical and operational levels of warfare. Contributing a U.S. Army Central (ARCENT) perspective to the debate, Michael X. Garrett, William H. Dunbar, Bryan C. Hilferty, and Robert R. Rodock recently called for the development of a “thorough” doctrine, organization, training, materiel, leadership and education, personnel, and

\textsuperscript{57} JP 3-22, 2018.


facilities (DOTMLPF) and policy analysis. In Joint Force Quarterly, they emphasize the challenge of translating a concept that originated to guide interactions in low-intensity conflict to meet the demands of major combat operations in which ground maneuvers are conducted by foreign partners rather than U.S. forces.  

Others, most notably CENTCOM Commander GEN Joseph L. Votel, have advocated additional efforts to understand the implications for Army training, equipment, communications, and logistics; to integrate the approach with preexisting military doctrine; and to guide coordination with related interagency efforts. Drawing on lessons learned from operationalizing the by, with, and through approach during OIR, Votel proposed an alternative conceptualization of the phrase using three constitutive elements, each symbolized by a word in the phrase. First, by signifies that operations are led by foreign state or nonstate partners that dictate the pace, establish strategic parameters, and maintain ownership of operations. In keeping with JP 3-20, building partners’ long-term capacity to lead operations independently is a core objective of this approach. However, the operational concept places greater emphasis on local partners’ willingness—which could involve military, paramilitary, nonstate armed, and government entities—to lead and “own” the battlespace by contributing maneuver forces, directing the pace and direction of a campaign, and requesting support, such as U.S. advising, airpower, intelligence, and embedded SOF, as needed. The procedural concept as enshrined in DODI 5000.68 and JP 3-20 described a progression culminating in foreign autonomy, but the operational approach is premised on the rapid transition of responsibility. “The earlier we can get the local or host-nation

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61 Garrett et al., 2018, pp. 50–51.


forces involved, the better,” Votel elaborated in a 2018 interview. “That’s really key.”

Second, foreign partners operate “with enabling support from the United States or U.S. led coalitions,” ranging from SOF operational advisers (as in the case of CT activities in Yemen) to joint force resources, such as fire, intelligence, and sustainment (as in the case of major combat operations against the Islamic State in Iraq). In contrast to the definition enshrined in JP 3-20, the operational approach explicitly excludes the use of conventional ground forces in direct combat operations. As Diana I. Dalphonse, Chris Townsend, and Matthew W. Weaver note in their review of the concept, this interpretation diverges from the SOF community’s use of \textit{with} to imply “working, eating, sleeping, and living, side by side . . . with those we are helping” and shouldering “equitable ownership of problem sets and equal involvement in execution of solutions” to a new relationship in which indigenous partners shoulder the majority of the burden. Although the United States committed substantial resources to the fight against the Islamic State, “The fact remains that ISF troops bore the weight of the violence on some astonishingly brutal days,” J. Patrick Work notes in his review of the approach.

Finally, these activities are conducted “through U.S. authorities and partner agreements.” As Votel and COL Eero R. Keravuori clarify in \textit{Joint Force Quarterly}, “[t]hrough American authorities and partner agreements, joint force enablers can support, organize, train, equip, build/rebuild, and advise partners’ security forces and their supporting institutions from the tactical to ministerial levels.” Notably, the operational approach explicitly expands the scope of eligible foreign actors to encompass nonstate entities, such as

\begin{itemize}
\item \textsuperscript{64} Votel, 2018, p. 35.
\item \textsuperscript{65} Dalphonse, Townsend, and Weaver, 2018.
\item \textsuperscript{66} J. Patrick Work, “Fighting the Islamic State By, With, and Through: \textit{How} Mattered as Much as \textit{What},” \textit{Joint Force Quarterly}, Vol. 89, 2nd Quarter, 2018, p. 57.
\item \textsuperscript{67} Votel and Keravuori, 2018, p. 40 (emphasis original).
\item \textsuperscript{68} Votel and Keravuori, 2018, p. 41.
\end{itemize}
the Syrian Defense Forces and other vetted Syrian opposition groups, which were excluded from the DODI 5000.68 definition.  

As Table 2.1 illustrates, the primary distinction between the emerging by, with, and through operational concept and the with, through, and by process described in joint and Army doctrine therefore is categorical. Although the concept outlined in DODI 5000.68 describes a process of interaction, the nascent approach described by Votel and others connotes the coordination of a group of tasks (e.g., the identification of partners; enactment of relevant authorities; equipping and training of forces prior to combat; collection, analysis, and use of intelligence, fire support, and operational advising during combat), a set of related programs and activities (e.g., SFA, FID, COIN), and the pursuit of specific strategic objectives (e.g., the promotion

**TABLE 2.1**

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69 In comments before Congress, for instance, Chairman of the Joint Chiefs of Staff GEN Mark A. Milley noted that “our military strategy [to combat violent extremism] remains to work by, with, and through Allies, partners, and local forces” (Mark A. Milley, statement on the Department of Defense Budget, U.S. Senate, Armed Services Committee, March 4, 2020).
of partner resiliency, the encouragement of new local coalitions, the defeat of shared adversaries that threaten local or regional stability). And although the published definition describes a process of interaction, the operational approach is intended to prescribe a set of specific actions.

Precisely which missions, activities, and tasks compose a by, with, and through operation is still unclear. CENTCOM, AFRICOM, and SOCOM operations suggest common practices, but our survey did not find specific guidance on how these activities are ordered, integrated, and resourced. The ambiguities within the emerging definition are in part a reflection of the conditions encountered in Iraq and Syria during the anti-ISIS campaign.

Therefore, understanding the concept’s adaptation and the opportunities for further refinement requires an examination of the strategic pressures that informed the Obama administration’s decision to select this approach when designing its counter-ISIS strategy in 2014.

By, With, and Through as an Emerging Operational Approach: The Case of Operation Inherent Resolve

The U.S. counter-ISIS campaign in Iraq and Syria brought the debate about by, with, and through to the forefront. By all accounts, the Obama administration was not eager to intervene militarily when the Islamic State surged across the Syrian border into Iraq in June 2014.\(^{70}\) An early and vocal critic of the decision to invade Iraq in 2003, Obama had campaigned on a pledge to extract the United States from the prolonged wars in the Middle East and South Asia, which he believed had distracted the United States from strategic priorities in Asia.\(^{71}\) As President, he demonstrated a willingness to use force in Libya and elsewhere but proved reluctant to intervene militarily in humanitarian or civil conflicts. His administration had proceeded

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cautiously after the outbreak of the civil war in Syria in 2011, choosing to “contain and mitigate” the conflict while resisting pressure from regional partners for greater U.S. involvement. The Islamic State’s rise over 2013 and 2014 forced a course adjustment, but the President declined proposals for a U.S. ground commitment in favor of a program to train and equip Syrian opposition groups instead. The White House was “very mindful of the lesson we took from [the previous war in] Iraq,” where the apparent “overextension of American power . . . brought tremendous hardship,” one senior official later explained.

The June 2014 offensive by the Islamic State forced a rapid reappraisal of the threat, and the White House began to prepare options to bolster the Iraqi government and defend U.S. personnel in the country. After ISIS fighters seized the cities of Mosul, Samarra, and Tikrit, spurring rumors of an imminent attack on Baghdad, Obama authorized preparations for a potential small-footprint intervention, such as augmenting U.S. intelligence, surveillance, and reconnaissance (ISR) assets in the country; drafting plans to use the newly established Counterterrorism Partnerships Fund to set up joint operations centers; and deploying six SOF assessment teams to evaluate the “potential for a closer U.S. partnership” and to “help the national security team calibrate additional and tailored measures.” But, even as the U.S. military presence in Iraq expanded, senior officials continued


74 “Obama at War,” 2015. For the decision to expand the train-and-equip program, see Chollet, 2016, p. 143.

to emphasize that U.S. troops would not play a combat role. As President Obama explained during remarks announcing the dispatch of an additional 300 military advisers, the ISF were expected to “take the fight to terrorists who threaten the Iraqi people, the region, and American interests.”

The Obama administration thus had already endorsed elements of a with, through, and by approach when the Islamic State launched a second offensive in early August 2014. Routing Kurdish Peshmerga forces, ISIS fighters seized control of Wana, Sinjar, Zumar, and the Mosul Dam (the country’s largest source of electricity and water) and advanced toward the Kurdish capital of Erbil. Fearing that ISIS might weaponize the dam, and determined to avert a genocide against the local Yazidi community, President Obama authorized the direct supply of weapons and munitions to the Kurds, redirecting equipment from a foreign military sales (FMS) program intended for the Iraqi government. On August 7, President Obama announced his decision to authorize targeted air strikes to halt the Islamic State’s advance; defend U.S. personnel in Erbil; and break the siege on Mount Sinjar, where an estimated 40,000–50,000 refugees had sought shelter. Five days later, the Pentagon announced the deployment of an additional 130 Marine Corps and unspecified SOF military advisers to assist in planning for the evacuation of those trapped on Mount Sinjar, although defense officials continued to insist that U.S. forces would not serve in combat functions. Through the remainder of August, U.S.


strikes concentrated on the areas around Erbil, Mount Sinjar, and Mosul, matching the President’s pledge to defend U.S. personnel, disrupt ISIS’s ethnic cleansing campaign, and protect critical infrastructure.81

The scale of ISIS’s territorial holdings, the diversity of its revenue streams, and its capacity to rally foreign fighters across the globe had by now persuaded Obama that the group presented a direct threat to U.S. interests.82 In August and September 2014, the administration devised a strategy to degrade and defeat ISIS while minimizing the risk of entanglement in a long and costly ground war. The solution it devised rested on four basic tenets that merged elements of a by, with, and through approach into partnered operations. Perhaps most importantly, the United States would rely on indigenous ground forces to reclaim ground while U.S. air strikes targeted ISIS leadership and positions. No U.S. ground troops would be involved in combat. “That’s what groups like ISIL want,” Obama explained in a later speech recounting his decision. “They know they can’t defeat us on the battlefield,” but, “if we occupy foreign lands, they can maintain insurgencies for years, killing thousands of our troops, draining our resources, and using our presence to draw new recruits.”83 Expanding on the model of past security assistance programs in Iraq and its ongoing train-and-equip (T&E) program in Syria, the Obama administration sketched a broad plan to strengthen the capacity of ISF and moderate Syrian rebel groups to reclaim ground while U.S. air strikes targeted ISIS leadership and positions. Drawing an analogy to Pakistan, where the United States targeted militants while limiting its ground combat troops, Obama called on the Iraqi government and Sunni tribes to prepare a “strong ground game.”84

Second, the administration conditioned U.S. military support on the formation of a representative government in Baghdad. In pointed public

82 Goldberg, 2016; Chollet, 2016, pp. 148–149.
83 White House, Office of the Press Secretary, “Address to the Nation by the President,” press release, Washington, D.C., December 6, 2015. ISIS is known by several names, such as the Islamic State, Daesh, and the Islamic State of Iraq and the Levant (ISIL).
84 White House, Office of the Press Secretary, “Remarks by President Obama at NATO Summit Press Conference,” press release, Newport, Wales, September 5, 2014d.
warnings, senior officials stressed the need to bring marginalized Sunni and Kurdish minorities into the political process, arguing that their exclusion from legitimate political channels contributed to the Islamic State’s appeal. But, in a broader sense, officials recognized that—as advocates of operationalizing the by, with, and through approach had long argued—a durable solution required local communities to take the lead. “There is no outside country, not the United States, not any country, that can solve the challenges that the people of Iraq are facing. It needs to be the government that takes steps,” State Department spokeswoman Jen Psaki told reporters as ISIS fighters neared Baghdad. As Secretary of State John Kerry explained to reporters after concluding negotiations for a new power-sharing agreement, “the future of Iraq depends primarily on the ability of Iraq’s leaders to come together and take a stand, united against [ISIS]. Not next week, not next month, but now.”

Third, the United States would prioritize stabilizing Iraq over resolving the crisis in Syria. “In Iraq, the government could be part of the solution, while in Syria the government was part of the problem,” one senior official explained, noting, “the Baghdad government was imperfect, but one we could cooperate with; we could share intelligence, coordinate air strikes, provide lethal assistance, and deploy U.S. troops to help train the Iraqi security forces.” By bolstering the ISF, strengthening the Peshmerga, and pushing for a new power-sharing arrangement in Baghdad, the United States might halt (and ultimately roll back) ISIS’s advance and contain the fighting in Syria. Only once the situation in Iraq was stabilized would the United States move forward to address ISIS’s base in Syria.

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86 “U.S. Puts Onus for Peace on Iraqis; Obama to Brief Lawmakers,” Reuters, June 17, 2014.
87 Landler and Gordon, 2014.
88 Chollet, 2016, p. 152.
Finally, the United States would work through an international coalition composed of the “broadest possible” number of participants. Just as working through indigenous partners would protect local support and promote burden-sharing, working through foreign partners would help distribute the operational load and provide the imprimatur of international legitimacy. A coalition strategy for training, equipping, and supporting Iraqi, Kurdish, and Syrian partners would allow Washington to take advantage of other countries’ expertise and avoid “‘own[ing]’ the ISIS problem outright,” thereby preserving its ability to disengage if needed. “This isn’t going to be ‘shock and awe’ with hundreds of airstrikes,” one official explained. “We don’t want this to look like an American war.”

By September’s end, more than 60 countries had enlisted in the fight against the Islamic State, a number that would continue to grow over subsequent years. By encouraging states to contribute as they could, and by avoiding setting minimum contributions, the Obama administration mobilized a broad-based coalition of international partners that flew alongside U.S. aircraft, lent materiel and humanitarian assistance, shared intelligence, pledged to root out ISIS sources of revenue and fighters, and provided other resources. On October 15, CENTCOM announced that U.S. operations against ISIS had been designated with the name OIR. A press release explaining the selection said the name was “intended to reflect the unwavering resolve and deep commitment of the U.S. and partner nations” and to “symboliz[e] the willingness and dedication of coalition members to work closely with our friends in the region and apply all available dimensions of national power necessary . . . to degrade and ultimately destroy ISIL.”


The conduct of the U.S.-led campaign against the Islamic State over the next six years offered an opportunity to test the notion of with, through, and by (now commonly reordered as by, with, and through) as a distinct operational approach rather than a general process of interaction. The following chapters examine how the concept was operationalized during four critical efforts: the liberation of Ramadi; the liberation of Fallujah; the operation to set the conditions for the liberation of Mosul; and the urban fight within East and West Mosul. The resulting analysis of U.S. Army and Marine Corps training and advising programs, along with other ground force contributions, offers insights into the fundamental characteristics of the approach, highlights areas deserving of clarification or refinement, and offers lessons for the concept’s possible incorporation into service-level and joint doctrine.

95 Austin, 2014; Heidi Prescott, “Dempsey Addresses Developing U.S. Plan Against ISIS,” South Bend Tribune, September 7, 2014; Martin E. Dempsey, The Administration’s Strategy and Military Campaign Against Islamic State in Iraq and the Levant, statement before the U.S. House of Representatives, Armed Services Committee, November 13, 2014; Votel and Keravuori, 2018; Richardson and Bolton, 2018, pp. 40–47. The term is cited explicitly in the CJTF-OIR mission statement, which stipulates that the TF will “militarily defeat DA’ESH in the Combined Joint Operations Area by, with, and through regional partners in order to enable whole-of-governmental actions to increase regional stability” (CJTF-OIR, “Combined Joint Task Force Operation Inherent Resolve Fact Sheet,” undated-a). In its initial request for funding, DoD stipulated that the focus of U.S. military efforts to counter the Islamic State “is to work with, by and through the” Government of Iraq “to build the necessary military capability” (Office of the Secretary of Defense, Department of Defense Budget Fiscal Year (FY) 2015 Budget Amendment: Justification for FY 2015 Department of Defense Overseas Contingency Operations Iraq Train and Equip Fund (ITEF), Washington, D.C., November 2014).
CHAPTER THREE

Overview of Command Structure and Deployments of U.S. Ground Forces

As alluded to in the previous chapter, the United States began in summer 2014 to increase the scope of its intervention to stem ISIS’s advance. On June 24, 2014, CENTCOM officially activated ARCENT as the Joint Forces Land Component Command–Iraq, responsible for command and control (C2) of all U.S. ground forces in the planned campaign to defeat ISIS. As additional allies and partners contributed military support to the mission, CENTCOM redesignated the outfit as the Combined Joint Forces Land Component Command–Iraq (CJFLCC-I). Ultimately, the unit changed its structure once more on October 17, 2014, when CENTCOM officially formed CJTF-OIR, a 3-star command that would oversee OIR, with the 2-star CJFLCC now slotted below it.

To assist with C2, the 1st Infantry DIV (1ID)’s headquarters arrived in theater in October 2014 and assumed command of the CJFLCC-I under ARCENT’s broader mandate of running CJTF-OIR. The creation of CJTF-OIR meant ARCENT needed to balance two roles—serving as the Army Service Component Command (ASCC) for CENTCOM and as headquarters for CJTF-OIR. To restore ARCENT’s ability to focus on its ASCC mis-

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sion, the U.S. Army’s III Armored Corps headquarters assumed the command of CJTF-OIR in September 2015. For the remainder of OIR, a U.S. Army corps headquarters would oversee CJTF-OIR while a division headquarters would manage the CJFLCC-I. A timeline is provided in Figure 3.1.2

Operational Command and Control Structure

CJTF-OIR

For roughly the first year of OIR, ARCENT assumed command responsibility for the overall CJTF-OIR. This tasking strained both manpower and operational focus, however, as ARCENT simultaneously fulfilled its role as ASCC for CENTCOM.3 The dual-hatted ARCENT under LTG James L. Terry ultimately passed command of CTJF-OIR to LTG Sean MacFarland and his III Armored Corps on September 22, 2015. The III Armored Corps oversaw CJTF-OIR until August 2016, when command shifted to LTG Stephen Townsend and XVIII Airborne Corps.

FIGURE 3.1
Timeline of CJTF-OIR Development

June 2014 September 2014 October 2014 October 2015
CENTCOM ARCENT JFLCC-I CENTCOM ARCENT JFLCC-I CENTCOM ARCENT JFLCC-I CENTCOM
CENTCOM ARCENT JFLCC-I CENTCOM ARCENT JFLCC-I CENTCOM ARCENT JFLCC-I CENTCOM
CENTCOM ARCENT JFLCC-I CENTCOM ARCENT JFLCC-I CENTCOM ARCENT JFLCC-I CENTCOM
CENTCOM ARCENT JFLCC-I CENTCOM ARCENT JFLCC-I CENTCOM ARCENT JFLCC-I CENTCOM

SOURCE: RAND analysis derived from documents and interviews cited in this chapter of report. NOTES: Red arrows indicate an initial HQ that, at some point, changed to a different HQ; black lines indicate direct command relationships. ABD = airborne division; HQ = headquarters.


Both III Armored Corps and XVIII Airborne Corps would continue to rotate as the corps headquarters for CJTF-OIR from 2017 to 2019. At the time of writing, III Armored Corps under LTG Robert “Pat” White retains command of the TF headquarters, located at Camp Arifjan, Kuwait.⁴

**CJFLCC-I**

Although CJTF-OIR primarily coordinated theater-level C2 for the multinational force, the CJFLCC-I managed ground combat operations and security coordination with the ISF.⁵ The organization originated as a U.S.-only multiservice force—known as the Joint Force Land Component Command—and primarily consisted of SOF conducting A&A missions. Throughout summer 2014, this small group of advisers was commanded by MG Dana J. H. Pittard.⁶ In October 2014, the 1ID headquarters under MG Paul E. Funk II arrived in the theater to oversee the CJFLCC-I. From 1ID’s arrival until the cessation of major combat operations and the deactivation of the CJFLCC-I in April 2018, three other Army divisions would lead the CJFLCC-I—with 1ID serving a second tour in late 2017. Table 3.1 details the divisional rotations within the CJFLCC-I.

**Missions and Deployments**

**Advise and Assist**

Within the framework of the by, with, and through operational approach, U.S. ground forces were not to engage in frontline combat with the enemy. Instead, U.S. ground forces were primarily tasked with advising and assisting host nation forces. That being the case, by, with, and through limited U.S. forces’ exposure to ground combat and promoted the partner’s “own-

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ership” of the fight. As GEN Joseph Votel—the former commander of CENTCOM—noted in a 2017 interview, “in Iraq, our job was to help our partners fight—not fight for them.”7

U.S. Army BCTs

Throughout OIR, the U.S. Army deployed portions of various BCTs to advise and assist the ISF in their mission to defeat ISIS. Generally, the early brigades deployed around 1,000 soldiers to the area of responsibility, meaning that the first U.S. Army A&A brigade deployed only a small portion of its manpower, but later A&A brigades deployed more than half of their manpower (around 3,000 soldiers).8 Force management levels (FMLs), which can be understood as a force cap limiting the number of military personnel that could be deployed under OIR, led to the deployment of brigades at less than full strength.

The Army’s first maneuver brigade arrived in Iraq in January 2015 as COL Curtis Buzzard’s 3rd BCT of the 82nd Airborne DIV uncased its colors and established TF Panther (TFP). Table 3.2 depicts the rota-

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7 Votel, 2018, p. 35.
8 U.S. Army and U.S. Marine Corps personnel, interviews with authors, 2019 and 2020.
TABLE 3.2

U.S. Army BCT Rotations to OIR

<table>
<thead>
<tr>
<th>BCT</th>
<th>Rotation</th>
<th>Commander</th>
<th>Task Force</th>
</tr>
</thead>
<tbody>
<tr>
<td>3rd BCT, 82nd Airborne DIV</td>
<td>January 2015–September 2015</td>
<td>COL Curtis A. Buzzard</td>
<td>TFP</td>
</tr>
<tr>
<td>1st BCT, 10th Mountain DIV</td>
<td>September 2015–May 2016</td>
<td>COL Scott M. Naumann</td>
<td>TF Warrior</td>
</tr>
<tr>
<td>2nd BCT, 101st Airborne DIV</td>
<td>May 2016–January 2017</td>
<td>COL Brett G. Sylvia</td>
<td>TF Strike</td>
</tr>
<tr>
<td>2nd BCT, 82nd Airborne DIV</td>
<td>January 2017–September 2017</td>
<td>COL J. Patrick Work</td>
<td>TF Falcon</td>
</tr>
<tr>
<td>3rd BCT, 10th Mountain DIV</td>
<td>September 2017–May 2018</td>
<td>COL Brian P. Sullivan</td>
<td>TF Patriot</td>
</tr>
<tr>
<td>3rd Cavalry REG</td>
<td>May 2018–January 2019</td>
<td>COL Jonathan C. Byrom</td>
<td>TF Rifles</td>
</tr>
<tr>
<td>1st BCT, 101st Airborne DIV</td>
<td>January 2019–October 2019</td>
<td>COL Derek K. Thomson</td>
<td>TF Iraq</td>
</tr>
<tr>
<td>1st SBCT, 25th Infantry DIV</td>
<td>October 2019–May 2020</td>
<td>COL Matthew W. Brown</td>
<td>TF Iraq</td>
</tr>
</tbody>
</table>


NOTES: CJTF-OIR established TF Iraq for longer-term functions after major combat operations against ISIS ended. SBCT = Stryker Brigade Combat Team; REG = regiment. For the individuals listed, the rank pertains to their statuses while commanders of their respective TFs.

...tion cycles of all Army A&A brigades for OIR since 2015. This report primarily focuses on TFs Warrior, Strike, and Falcon and their respective efforts during the battles of Ramadi and Fallujah, setting the conditions for Mosul, and the urban Mosul fight.

U.S. Marine Corps: Special Purpose Marine Air-Ground Task Force–Crisis Response–Central Command

Within the CENTCOM area of responsibility, the I Marine Expeditionary Force (MEF) traditionally allocates approximately 2,000 marines to the Special Purpose Marine Air-Ground Task Force–Crisis Response–Central Command (SPMAGTF-CR-CC). This quick-reaction force responds to crises in the region and assists partners and allies with critical SC mis-
A typical Marine Corps Marine Air-Ground Task Force (MAGTF) generally consists of a command element (CE), aviation combat element (ACE), ground combat element (GCE), and logistics combat element. However, in keeping with the “Special Purpose” descriptor, the Marine Corps intentionally designs and builds these deployments for the specific contingencies to which it deploys.

In this case, the majority of the Marine Corps forces deployed to OIR were ACE and GCE components. The ACE assets conducted resupply and strike missions; the GCE portions oversaw training operations and provided medical aid to Iraqi forces. Ground-based marines assisted the ISF with the fortification and defense of two major Iraqi air bases—Al-Asad and Al-Taqaddum—that would prove crucial to the liberation of Anbar Province, including the cities of Ramadi and Fallujah, which we profile in this report. GCEs usually consisted of a battalion commanded by a colonel. In sum, each rotation of the SPMAGTF—numbered by the year in which its deployment ended—saw the deployment of various ACE and GCE component units from multiple Marine Corps regiments. For example, the units of the ACE of SPMAGTF-CR-CC 15.1 were among the first to join the air campaign against ISIS in late 2014. Marine Corps units would continue to deploy in six-month rotations each October and April throughout the duration of OIR.


Although the MAGTFs were relatively large contingents—equivalent in size to the largest U.S. Army A&A brigade elements that deployed—their role was distinct. The MAGTFs enabled smaller Marine Corps TFs at Al-Asad and Al-Taqaddum air bases in Western Iraq. Those smaller TFs, usually referred to as TFTQ (for Al-Taqaddum) and TF Lion (Al-Asad is Arabic for lion), advised the ISF and secured those bases, among other roles. The larger MAGTF deployments enabled the smaller TFs by serving as a crisis response if they faced an assault by ISIS, sustaining their deployments through the provision of materiel and supplementing their manpower if they lacked a specific capability. But the MAGTF headquarters were outside Iraq and were executing Marine Corps contributions to multiple missions in the theater; therefore, they generally were not counted against the force cap.

**Combat Aviation**

In addition to deploying A&A brigades, the U.S. Army contributed a sizable aerial force to Iraq’s war against ISIS. Specifically, Army aviation employed rotary-wing aircraft (such as the UH-60 Blackhawk utility helicopter) for airlift, resupply, and medical evacuation missions. For strike missions, Army aviation augmented Iraqi forces with CCA from AH-64 attack helicopters. Success in Iraq demanded extensive use of unmanned aerial systems (UAS) (such as the RQ-7 Shadow); these systems provided Iraqi and coalition forces with valuable ISR and battle damage assessment capabilities. Interestingly, the Army experimented with manned-unmanned teaming during OIR. For the first time under combat conditions, Apache helicopters successfully operated in tandem with unmanned aircraft. This teaming expanded both the range and firepower capabilities of a single helicopter by pairing it with multiple unmanned aircraft.

Prior to the initiation of Iraq’s campaign to defeat the Islamic State, various Active Component U.S. Army aviation units were stationed in Kuwait

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as part of Operation Spartan Shield. Once the ISF launched their counter-attack against ISIS, the U.S. Army repositioned some of these aviation units to support Baghdad’s effort. Although initially deployed to Iraqi airspace from Camp Buehring in Kuwait, troop-sized Army attack reconnaissance units ultimately repositioned to Taji and Erbil once the ISF consolidated gains against ISIS. Reserve Component units also contributed to the mission in Iraq, creating a unique “hybrid” command structure among Army aviation units. Although Active Component squadrons deployed their attack reconnaissance troops to forward bases in Iraq, Reserve Component units provided C2 and airlift support from Kuwait. Typically, Army National Guard (ARNG) combat aviation brigades (CABs) served in this headquarters capacity. Table 3.3 outlines the rotation cycles of the various CAB headquarters that contributed to OIR.

Field Artillery
To augment combat power of Iraqi forces, the U.S. Army deployed field artillery brigades (FABs) to OIR. These units provided indirect fires via M777-towed howitzers, M109A6 self-propelled howitzers, and M142 high-mobility artillery rocket systems (HIMARS). Because of the urban nature of much of the fighting during OIR, the devastation and precision of Army fires provided the ISF with a major firepower advantage in the fight while limiting civilian casualties via the use of precision-guided munitions. Multiple FABs deployed to OIR throughout the course of combat operations, including some from the National Guard. Table 3.4 outlines the sequence of FAB rotations during the conflict.

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17 U.S. Army field-grade officer, interview with authors, November 12, 2019.

18 U.S. Army field-grade officer, interview with authors, November 12, 2019; U.S. Army company-grade officer, interview with authors, November 22, 2019; U.S. Army company-grade officer, interview with authors, November 26, 2019.
TABLE 3.3  
CAB HQ Rotations to OIR/Operation Spartan Shield

<table>
<thead>
<tr>
<th>CAB</th>
<th>Rotation</th>
<th>Commander</th>
</tr>
</thead>
<tbody>
<tr>
<td>42nd Combat Aviation BDE (New York ARNG)</td>
<td>December 2013–August 2014</td>
<td>COL Al Ricci</td>
</tr>
<tr>
<td>34th Combat Aviation BDE (Minnesota ARNG)</td>
<td>August 2014–April 2015</td>
<td>COL Gregory Thingvold</td>
</tr>
<tr>
<td>185th Theater Aviation BDE (Mississippi ARNG)</td>
<td>April 2015–December 2015</td>
<td>COL Ronald Beckham</td>
</tr>
<tr>
<td>40th Combat Aviation BDE (California ARNG)</td>
<td>December 2015–August 2016</td>
<td>COL Jeffrey Holliday</td>
</tr>
<tr>
<td>77th Combat Aviation BDE (Arkansas ARNG)</td>
<td>August 2016–April 2017</td>
<td>COL Ryan Pace</td>
</tr>
<tr>
<td>29th Combat Aviation BDE (Maryland ARNG)</td>
<td>April 2017–December 2017</td>
<td>COL Mark Beckler</td>
</tr>
<tr>
<td>449th Combat Aviation BDE (North Carolina ARNG)</td>
<td>December 2017–August 2018</td>
<td>COL Joseph Bishop</td>
</tr>
<tr>
<td>35th Combat Aviation BDE (Missouri ARNG)</td>
<td>August 2018–May 2019</td>
<td>COL Charles Hausman</td>
</tr>
<tr>
<td>244th Expeditionary Combat Aviation BDE (U.S. Army Reserve)</td>
<td>May 2019–January 2020</td>
<td>COL Harvey Cutchin</td>
</tr>
<tr>
<td>34th Expeditionary Combat Aviation BDE</td>
<td>January 2020—October 2020</td>
<td>COL Gregory Fix</td>
</tr>
</tbody>
</table>

SOURCE: RAND review of media documenting CAB Headquarters rotations.  
NOTE: BDE = Brigade.

Summary

Between 2015 and 2017, the total number of U.S. Armed Forces personnel operating within Iraqi borders fluctuated between approximately 3,100 and 5,200 individuals.¹⁹ U.S. Army A&A brigades, which typically deployed at half their full strength of roughly 5,000 soldiers, accounted for the majority

of the FML cap during the conflict. Marines of the SPMAGTF-CR-CC composed the next largest bloc of U.S. service personnel in Iraq, relying primarily on their ACE and GCE components to complete their missions. However, most of these contingents enabled much smaller Marine Corps TFs, such as those based at Al-Asad and Al-Taqaddum (TQ) air bases, and the majority of the overall MAGTF did not count against the FML.

A patchwork of units fulfilled the remainder of the FML caps during the operation. Multiple combat aviation and field artillery units initially serving in Operation Spartan Shield later redeployed to Iraq to support operations against ISIS. Even smaller formations joined the fight. For example, just a single platoon of the 3rd Armored BCT of the 1st Armored DIV contributed to the battlefield successes of the Iraqi 9th Armored DIV. This small group of enabling soldiers—also initially deployed to Kuwait as part of Operation Spartan Shield—joined the 2nd Brigade, 101st Airborne DIV (2/101) BCT in facilitating the ISF’s liberation of Mosul, which is described in Chapter Seven.20

<table>
<thead>
<tr>
<th>FAB</th>
<th>Rotation</th>
<th>Commander</th>
</tr>
</thead>
<tbody>
<tr>
<td>17th Field Artillery BDE</td>
<td>April 2014–January 2015</td>
<td>COL Tim Kehoe</td>
</tr>
<tr>
<td>75th Field Artillery BDE</td>
<td>January 2015–September 2015</td>
<td>COL Michael Eastman</td>
</tr>
<tr>
<td>18th Field Artillery BDE</td>
<td>September 2015–May 2016</td>
<td>COL John L. Rafferty, Jr.</td>
</tr>
<tr>
<td>169th Field Artillery BDE (Colorado ARNG)</td>
<td>January 2017–September 2017</td>
<td>COL Robert Davis</td>
</tr>
<tr>
<td>75th Field Artillery BDE</td>
<td>September 2017–May 2018</td>
<td>COL Steve Carpenter</td>
</tr>
<tr>
<td>65th Field Artillery BDE (Utah ARNG)</td>
<td>May 2018–January 2019</td>
<td>COL Adam Robinson</td>
</tr>
<tr>
<td>18th Field Artillery BDE</td>
<td>January 2019–July 2019</td>
<td>COL Joseph Roller</td>
</tr>
</tbody>
</table>

SOURCE: RAND review of media documenting FAB Headquarters rotations.

In the same way that the manpower for the operation was sourced from many different units, the command structure also was a hybrid. An individual unit might be operationally controlled by its organic brigade headquarters but tactically controlled by the CJFLCC. Although these processes did, at times, create ambiguity in the C2 of the operation, they were driven by the unique circumstances of the vast military engagements spread across two countries. Specifically, FML caps combined with the need for a variety of capabilities led to the deployments of parts of organic brigades or Marine Corps TFs rather than entire units. The U.S. response was thus adaptive to the requirement, even if the solution was nondoctrinal.
CHAPTER FOUR

The Battle of Ramadi, October 2015–March 2016

After the Islamic State seized Ramadi in May 2015, Iraqi forces attempted to quickly liberate the city, reminiscent of the counteroffensive by the ISF when ISIS briefly seized the city in late 2013.¹ However, the ISF campaign, featuring Shi‘a militias, rapidly stalled without significant progress. The summer months were marked by constant Iraqi clearing operations and ISIS counterattacks. To break the stalemate, the U.S. and coalition forces intensified aerial strikes to soften the city for the Iraqi ground forces, which were composed of Sunni militias and government forces. In October 2015, Iraqi forces steadily prepared for a final ground offensive into the Ramadi urban area. After months of intense fighting, characterized by house-to-house engagements and overcoming a network of ISIS’s improvised defensive measures, Iraqi forces finally prevailed in recapturing the city in late December 2015. Government forces consolidated their control of the city by March 2016, but ISIS remained a persistent threat in the province. Table 4.1 provides a timeline for this battle.

Seizure of Ramadi by the Islamic State

ISIS’s capture of Ramadi (the capital of Anbar Province and the center of the Sunni heartland) occurred over successive campaigns, a convergence of

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¹ *Iraqi Security Forces* or *ISF* is an expansive term that encompasses the Iraqi Army (IA), Iraqi Police, CT units, and various militias. The term is often used as a catch-all phrase to describe Iraqi troops.
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political and military failures. Beginning in 2014, as ISIS advanced on multiple fronts, the Iraqi government’s control of Ramadi and the surrounding areas in Anbar Province was precarious at best. Earlier in the year, ISIS had successfully captured the cities of Mosul and Tikrit, dealing a profound blow against the credibility of the IA and Iraqi government.² The vulnerability of Ramadi was worsened by the strained, and even hostile, relationship between the Anbar provincial government and the Iraqi government based in Baghdad. In 2013, inspired by the Arab Spring, Sunni antigovernment protesters rallied in Fallujah and Ramadi. The largely peaceful protests stemmed from long-standing sectarian disputes in Iraqi politics, ranging from the inequitable judicial system to the exclusion of Sunnis from key

government positions.\textsuperscript{3} The political standoff escalated with a deadly attack against the ISF by ISIS and the subsequent arrest order for Parliamentarian Ahmad Al-Alwani, a prominent Sunni leader.\textsuperscript{4} Iraqi Prime Minister Nuri Al-Maliki responded by ordering the ISF and police to dismantle the Sunni protest camps, which tragically resulted in at least 13 deaths.\textsuperscript{5} Because of growing political backlash, the provincial government and Al-Maliki negotiated the withdrawal of all IA forces from Ramadi in late 2013.\textsuperscript{6}

The political instability combined with the withdrawal of government forces led to the first seizure of Ramadi and the surrounding area by ISIS. On December 30, 2013, ISIS seized control of Fallujah and neighborhoods in Ramadi.\textsuperscript{7} Although brief, the first ISIS seizure of Ramadi garnered the support of some ISF defectors, Sunni protestors, and other tribal fighters. Nevertheless, by January 2014, government-supported militias expelled ISIS from the majority of Ramadi, regaining control of most of the city.\textsuperscript{8} Despite the partial liberation of Ramadi, ISIS remained a prevailing threat in Anbar Province and retained control of nearby Fallujah.

The 2014 campaign against ISIS in the region was marred by disorganization and ineptitude. For instance, the counter-ISIS offensive in Diwaniyah suffered from shortages of equipment, poor planning, and lackluster effectiveness. To compound matters, Iraqi forces in Diwaniyah suffered several high-profile casualties, notably a division commander and several high-ranking officers. In an attempt to tip the balance, the United States hastened the delivery of various weapon systems: light arms, Hellfire missiles, and surveillance drones. However, critics argued that U.S.-supplied

\begin{footnotesize}
\begin{enumerate}
\item Katzman, 2015, p. 23.
\end{enumerate}
\end{footnotesize}
arms and equipment would not replace the dire need for better training and intelligence for Iraqi forces.\textsuperscript{9} For months, the counter-ISIS campaign in the region sputtered into a stalemate as ISIS forces besieged Ramadi and the surrounding area.

The early months of 2015 were littered with ISIS attacks on ISF positions throughout Anbar Province and Ramadi. For instance, on March 11, 2015, ISIS forces coordinated a simultaneous assault on several ISF positions in Ramadi. Despite a combination of vehicle-borne IEDs (VBIEDs), indirect fire, and small arms fire, ISF defenders were able to successfully repel the attack.\textsuperscript{10} However, ISIS remained a persistent threat in the province. In effect, because of ISIS’s foray into Ramadi in 2013, the city had been under siege by ISIS forces—with little reinforcement from Baghdad.\textsuperscript{11} ISIS continued to contest Iraqi forces throughout the province. Despite minor battlefield successes, the ISF remained incapable of dislodging ISIS forces from the region. ISF personnel remained mired in clearing operations in Karma, Haditha, Fallujah, and Ramadi—where ISIS contested government control.\textsuperscript{12} The reprieve would be short-lived as the central government’s control of Anbar progressively weakened.

On May 15, 2015, ISIS launched the decisive and brutal offensive into Ramadi, capturing the government center—finally seizing the city after numerous attempts. Government resistance succumbed to the ISIS-led onslaught in Anbar Province and elsewhere. The broad, multipronged ISIS assault stretched Iraqi forces thin. ISIS fighters, disguised in IA uniforms, began the nighttime assault with a series of successive VBIED attacks. The well-orchestrated offensive quickly overwhelmed Iraqi forces defending the


city, mainly composed of Sunni militia and IA forces. Leveraging a sandstorm to conceal their movements, ISIS fighters rapidly captured adjacent neighborhoods, such as Thila and Farsan. The Golden Division—an elite U.S.-trained SF unit from the Iraqi Counterterrorism Service (CTS)—and ISF units attempted to repel the ISIS offensive. Aided by 19 U.S.-led coalition strikes, the Joint Operations Center (JOC) coordinated an ad hoc counterattack, reinforcing Ramadi with three IA battalions from Baghdad, Habaniya, and Khalidiya.

Heavy fighting continued throughout the city as coalition strikes intensified. ISIS laid siege to scattered ISF units in the Justice Palace, Anbar Terrorism Directorate, and 8th Brigade Headquarters. Unable to regain control of the city, the remaining Iraqi forces retreated roughly 7 km west of Ramadi. In a bid to block any follow-on ISIS advances, the ISF sealed the road between Ramadi and the base at Habaniya. The retreat would be highly criticized by U.S. officials, including U.S. Secretary of Defense Ash Carter. In reference to the fall of Ramadi, Carter said, “What apparently happened [in Ramadi] is that the Iraqi forces showed no will to fight.” The famed Golden Division of the CTS received particularly harsh criticism for their retreat from Ramadi. But the elite SF unit was ill suited for the prolonged back-and-forth contest with ISIS in Ramadi. Often overemployed and insufficiently supported, the CTS eventually succumbed to the pressures of the ISIS siege—opting to withdraw after nearly 18 months of ISIS assaults.


16 Beauchamp, 2015.


18 Linda Robinson, Assessment of the Politico-Military Campaign to Counter ISIL and Options for Adaptation, Santa Monica, Calif.: RAND Corporation, RR-1290-OSD, 2016, p. 29; Beauchamp, 2015.
By May 17, ISIS had seized complete control of Ramadi. The withdrawal of Iraqi forces was accompanied by the tragic slaughter of hundreds of soldiers and civilians. Some reports indicated at least 500 civilians and security personnel were killed in two days. Additionally, because of the haste of the ISF retreat, ISIS subsequently captured numerous U.S.-supplied vehicles intended for the ISF, notably 100 wheeled vehicles, dozens of tracked armored personnel carriers, and a handful of M1A1 tanks. When questioned about the significance of ISIS’s seizure of Ramadi, CENTCOM officials recognized it as a setback but attempted to strike an optimistic tone, emphasizing that 7,000 U.S.-trained ISF soldiers recently graduated and were ready for deployment. With an additional 3,000 to 4,000 ISF soldiers in the training pipeline, CENTCOM officials outlined a plan to steadily build Iraqi combat power and capabilities and provide coalition air support for the liberation of Ramadi.

In response to the sudden fall of Ramadi, the Anbar Provincial Council requested that Iraqi Prime Minister Haider Al-Abadi deploy Shi’a militias (also known as the PMF) to recapture the city. The PMF is an umbrella organization for a loose collection of militias, including Shi’a forces supported by Iran. The deployment of the Shi’a PMF was a stark indictment of the failed effort to arm and train a local Sunni force. The Sunni militia tasked with the defense of Ramadi proved ill equipped and woefully insufficient. The poor

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23 The PMF is also known as the Hashid Al-Shabi militias; some sources refer to it as Iranian-supported Shi’a militias. It is important to know that the PMF is not a monolithic organization; rather, it is composed of various factions and militias with varying agendas, allegiances, and capabilities.
The Battle of Ramadi, October 2015–March 2016

state of the Sunni militia was a product of political tensions between the Shi’a-dominated Iraqi government and the Sunni leaders of Anbar.25

Initially, the United States and its coalition partners (e.g., the United Kingdom, France, Australia) planned to strike at Mosul, the center of ISIS influence and operations in Iraq. In contrast, the Iraqi government prioritized the liberation of Ramadi and Anbar Province. Furthermore, the United States and coalition partners were intensely wary of the brutality of the Shi’a militias and their connection to foreign nations.26 Thus, under pressure from the United States, Prime Minister Al-Abadi agreed to utilize the Sunni militia as the main bulwark against ISIS in Anbar. Nevertheless, Shi’a leaders questioned the loyalty of Sunni militias, a product of sectarian divisions and ISIS sympathies in parts of the Sunni population. This significantly hampered the process of training and arming the Sunni militias.27

The capture of Ramadi only aggravated existing political and sectarian tensions. Sunni civilians fleeing the violence were harshly received, with entry to the city denied to some military-aged males on the grounds of security concerns and movement restrictions imposed on displaced Sunnis. Moreover, despite the operational necessity and expediency, the massive deployment of the PMF to Anbar proved problematic because of the role of Shi’a militias in past sectarian violence. Compared with the scarce support for Sunni militias, the prominent role of Shi’a militias in the campaign against ISIS only further fostered perceptions of Sunni disenfranchisement.28

The influx of roughly 3,000 Shi’a militia forces only produced limited gains against ISIS-controlled areas in Anbar Province.29 Leveraging their success in Ramadi, ISIS forces pressed the already exhausted ISF while adding additional strongholds in Syria and Iraq, such as Palmyra. Bolstered by a surge of fighters and confiscated weapons, ISIS progressively...

25 Arango, 2015a.
27 Arango, 2015a.
entrenched itself into the Sunni heartland. 30 ISIS converted the roughly 2,300 high-mobility multipurpose wheeled vehicles (HMMWVs) captured in Mosul into lethal VBIEDs throughout the Battle of Ramadi. 31

In late May, using the Habaniya base as a forward staging ground, the ISF and PMF continued to contest areas surrounding Ramadi (Figure 4.1). 32 The Scorpion Brigade of the Federal Police conducted forays into Ramadi proper; the ISF and PMF regained control of the Husayba, Madiq, Al-Kisara, and Sheikh Masoud areas east of Ramadi. 33 By May 27, the ISF and PMF had encircled the city, launching assaults into the outskirts of Ramadi. The Golden Division assaulted ISIS forces at Anbar University while the PMF and ISF reclaimed the Al-Tash and Humaira neighborhoods. 34 In retaliation, ISIS forces closed the Warrar Dam on June 2, stopping the flow of the Euphrates River. ISF units, such as the 8th and 14th IA divisions, continued to press into Ramadi’s outlying suburbs, but the closure of the dam threatened to disrupt critical support from Habaniya. 35

Throughout June, supported by U.S.-led coalition air strikes, the combined ISF and PMF coalition was locked in a grueling stalemate in the province. Aiming to blunt the Iraqi advances, ISIS forces employed a series of coordinated VBIED and suicide vest (SVEST) attacks, which led to mixed results. In the first two weeks of June alone, ISIS conducted at least 36 VBIED and several SVEST attacks. 36 In the following days, ISF units—composed of the IA 52nd Brigade, 14th DIV, and the 29th Brigade, 7th DIV—continued

31 Robinson, 2016, p. 28.
Failed Summer Offensives to Retake Ramadi

As the May counteroffensives against ISIS stalled, the insurgents steadily consolidated their control of Ramadi. Reflective of its hallmark brutality, ISIS wielded violence, including the summary executions of dissenters, as a blunt tool to enforce order. ISIS seized control of the city’s mosques, issuing

decrees on religious matters from use of prayer beads to mandatory attendance at religious services. At the same time, the group started a series of public works projects, such as repairing roads and restoring electricity, to create a sense of functioning normalcy. However, the infrastructure efforts were not limited to civilian projects. Empty buildings were converted into elaborate explosive traps; others were designated as quarters for ISIS fighters. During the respite, ISIS hurriedly prepared for the inevitable attempts by the Iraqi government to liberate Ramadi.39

With the initial counteroffensive against ISIS mired in a deadlock, the Iraqi government, advised by the U.S. military, decided to intensify efforts to liberate Ramadi and Anbar Province. The new summer offensive predominantly featured local Sunni militias and the ISF, particularly the CTS. This was contrary to previous campaigns, such as Tikrit, where the PMF and Shi’a militias played a dominant role. However, the PMF was not completely excluded from the campaign. The additional 5,000 PMF fighters were tasked with establishing blocking positions south and west of Ramadi. The purposeful shift in roles for the PMF was a political compromise, which sought to prevent further escalation of sectarian tensions. The new offensive featured more-direct U.S. support, such as U.S. forward observers coordinating air strikes and an additional 450 U.S. troops deployed to TQ Air Base.40

In preparation for the ground assault, U.S.-led coalition forces intensified aerial bombing around Ramadi. The bombardment continued in an attempt to soften ISIS resistance.41 On July 13, a coordinated ground assault against ISIS-held cities of Ramadi and Fallujah began in earnest. In the early fighting, coalition and Iraqi forces, composed principally of ISF and Sunni militias, achieved small, initial successes. By the afternoon, the combined force was able to secure the stadium in western Ramadi and make advances

41 Dominic Evans, “Iraq Launches Offensive to Drive Islamic State from Biggest Province,” Reuters, July 13, 2015.
into the eastern section of the city. As the campaign continued, doubts and political tensions loomed large. Sectarian divisions and grievances between the Shi’a PMF and the Sunni militias remained a consistent challenge. Furthermore, the coalition balked at times in supporting Iranian-backed militias in the PMF. Reflective of the critical nature of the campaign, roughly 3,000 coalition-trained troops were deployed for the first time in the Anbar campaign. The deployment of roughly 450 U.S. troops to TQ was seen as a way to accelerate the liberation of Ramadi. But the Pentagon stressed that coalition forces would serve only a support role while Iraqi forces expelled ISIS from the province.

In the days that followed, Iraqi forces continued to advance steadily into Al-Tash and Husayba, outside Ramadi. Despite a wave of VBIED and SVEST attacks, the Golden Division of the CTS and other ISF units assaulted ISIS-held positions in Anbar University, southwest of Ramadi. On July 26, Iraqi forces officially secured the university compound, roughly 5 km from Ramadi. Encouraged by recent ISF successes in Beiji and elsewhere, CENTCOM officials expressed optimism for Ramadi’s liberation. In July 2015, DoD officials reported that roughly 1,800 Sunni fighters completed U.S.-led training. Still, despite repeated announcements of increased

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Sunni participation in the Ramadi campaign, Sunni leaders complained that Sunni militias had largely been neglected and sidelined.\textsuperscript{49}

Fierce fighting continued as Iraqi forces moved into southern Ramadi, utilizing Anbar University as an operations center.\textsuperscript{50} Seeking to weaken the Iraqi forward position at the university, ISIS forces countered with VBIED attacks, reportedly killing 18 Iraqi troops.\textsuperscript{51} The Iraqi offensive quickly stalled despite numerous attempts to break the mobile defense of ISIS fighters.\textsuperscript{52} Aiming for a decisive engagement, the ISF gradually encircled and cordoned the city in conjunction with intensified air strikes by the U.S.-led coalition. According to press reports, 3,000 soldiers and 500 militia fighters trained by U.S. advisers were included in the roughly 10,000 troops poised for the assault. At the time, U.S. advisers, although critical in the training and support of the offensive, were not permitted to directly accompany Iraqi forces into combat.\textsuperscript{53} From August 14 to August 17, Iraqi forces reached their operational high-water mark by advancing into the sports stadium and main rail terminal in Ramadi.\textsuperscript{54} The ISF faced elaborate and intricate obstacles and IEDs, a predominant feature of ISIS’s defensive network.\textsuperscript{55} A few weeks later, coalition air strikes destroyed a pivotal ISIS operating base.


\textsuperscript{53} Jim Michaels, “Coalition Says Iraqis Close to Taking Ramadi,” \textit{USA Today}, August 11, 2015a.


near Ramadi stadium, aiming to disrupt the flow of ISIS supplies of ammunition, IEDs, and weapons.\textsuperscript{56}

Despite initial optimism, the summer offensive to liberate Ramadi once again ground to a frustrating halt. Several factors led to these lackluster results. According to Major General Qasim Al-Mohammadi, the head of AOC, the lack of progress was a direct consequence of insufficient U.S. support, especially in terms of air strikes. However, U.S. officials disputed this, citing several other factors, such as the intense heat and elaborate ISIS fortifications. Furthermore, sectarian schisms continued to plague the Iraqi government coalition. Citing discriminatory policies and salary cuts by Shi’a leaders, several Sunni commanders deserted, leaving behind an ineffective Sunni force. The lack of local support, both from the populace and Sunni leaders, raised concerns about the effectiveness of the campaign.\textsuperscript{57}

Although the ISF cleared several key areas, it demonstrated an inability to hold new gains—often clearing the same area numerous times. For instance, Husaybah and East Husaybah were subject to numerous clearing operations throughout the summer. Moreover, suspicions mounted that the Iraqi coalition lacked the will and the robust chain of command necessary to break through ISIS’s defenses of Ramadi—marked with snipers, trenches, and deadly traps.\textsuperscript{58} By the end of September, ensnared by operational ineffectiveness and political challenges against the Abadi government, the Ramadi offensive was once again in a deadlock.\textsuperscript{59}


\textsuperscript{58} Andrew Tilghman, “No End in Sight for Iraq Fight Against ISIS in Ramadi,” \textit{Military Times}, September 15, 2015a.

The Autumn Offensive and the Liberation of Ramadi

In preparation for a decisive engagement, the ISF began a major operation to completely isolate and surround ISIS forces in Ramadi. In previous months, efforts to isolate the city proved ineffectual as ISIS continued to contest outlying areas. At the same time, political pressures mounted as Iran and Russia jockeyed for political influence in Iraq. Both Iran and Russia continued efforts to undermine the United States as the Iraqi government’s principal partner in its counter-ISIS campaign. In late September, Russia, Syria, Iran, and Iraq agreed to share intelligence against ISIS—a deliberate effort by Russia and Iran to offer an alternative coalition to the U.S.-led effort. This was further exacerbated by the Shi’a militias (which are often seen as proxies for Iranian influence in Iraq) seeking a larger role in the Ramadi campaign. Subsequently, the campaign represented a litmus test for the U.S.-Iraqi partnership with potentially far-reaching implications—both diplomatically and militarily.

Although marketed as the second phase in the liberation of Ramadi, the autumn campaign largely resembled earlier attempts to liberate Ramadi. U.S.-led coalition forces once again increased air strikes around Ramadi. From October 3 to October 10, coalition fighters in conjunction with Iraqi F-16s conducted 52 air strikes, adding to the roughly 292 strikes since the beginning of July (Figure 4.2). This marked the first time Iraqi F-16s provided direct support to ISF ground forces. More importantly, since May 2015, coalition forces had conducted 292 strikes against ISIS forces in and near Ramadi. With a limited role for U.S. surface fires in the Ramadi campaign, coalition air strikes provided critical support to ISF units, eliminating enemy indirect fire positions, VBIEDs, explosive facilities, and obstacles.

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The autumn offensive was part of a large-scale coordinated campaign against ISIS across Iraq. U.S. officials hoped that the roughly 5,000 U.S.-trained Sunni militia troops, of which only half were properly equipped, would provide additional forces and momentum. Reminiscent of earlier skirmishes, the renewed fighting around Ramadi was a constant back-and-forth contest for control. ISF and Sunni militia units moved into the Ta’imim, Malaab, and Humaira neighborhoods in the south and Albu Faraj Bridge in the north. Roughly 10,000 Iraqi troops continued the siege and stranglehold on Ramadi. The operation was designed to force ISIS to spread its constrained resources and fighters across multiple fronts. In preparation for the decisive push, the ISF reorganized and consolidated their forces. The ISF planned to advance on five different axes of attack. However,

64 Warren, 2015a.


the ISF advance was slowed by IEDs, VBIEDs, and other obstacles, which demanded time-consuming clearing operations.\textsuperscript{67} 

In early November, heavy rains delayed the Ramadi offensive as the ISF struggled to seize the northern bank of the Euphrates River.\textsuperscript{68} Unable to make significant advances, the campaign once again stuttered to a crawl for several weeks. However, in anticipation of a final push into the city, the ISF began dropping leaflets urging residents to leave the city.\textsuperscript{69} During December 8–14, the ISF cleared and secured the Ta’mim neighborhood in southwestern Ramadi, east of Highway 11.\textsuperscript{70} ISF control of Ta’mim, the city’s largest neighborhood, and the AOC represented a significant milestone for the campaign.\textsuperscript{71} By November, under the aegis of the AOC and the Babil Operations Command,\textsuperscript{72} the principal units involved in the Ramadi campaign mainly consisted of the IA 8th, 9th, 10th, and 16th DIVs, which were complemented by Sunni militias, Iraqi Federal Police, Iraqi police, and the CTS.\textsuperscript{73} 

As Iraqi forces advanced, ISIS fighters demolished the three critical bridges on the Euphrates River in an attempt to blunt Iraqi momentum.\textsuperscript{74}


\textsuperscript{68} Patrick Martin, “Iraq Situation Report: November 3–9, 2015,” Institute for the Study of War, November 9, 2015c. 


\textsuperscript{70} Martin, 2015d. The original AOC was in Ramadi but was later moved to TQ when ISIS seized the city. 


But, using an improved ribbon bridge, the ISF crossed the Tharthar Canal, an artificial offshoot of the Euphrates River. The successful bridging operation enabled the ISF, specifically elements of the CTS, to mass combat power in the central neighborhoods of Ramadi. This marked the first time the ISF engaged with ISIS in the city center.\textsuperscript{75} Elements of the 8th IA DIV, Iraqi police, and Sunni militias simultaneously assaulted various neighborhoods in southern Ramadi, including Al-Malaab and Bakir.\textsuperscript{76} As the ISF penetrated deeper into Ramadi, coalition air support continued its strike operations—at times delivering over 30 munitions in roughly 24 hours. Nevertheless, the winding avenues and dense corridors of the city proved challenging.\textsuperscript{77} This was further complicated by ISIS’s tactics of using civilian human shields and elaborate traps.\textsuperscript{78}

The following days were marked by grueling urban combat. But months of constant skirmishes and assaults had exhausted and reduced the originally estimated 600–1,000 ISIS defenders to roughly 300 ISIS fighters in the city’s center (Figure 4.3). The remaining ISIS fighters routinely employed roadside IEDs, booby traps, tunnels, and prestaged weapon caches. Nevertheless, the CTS steadily advanced toward the provincial government center, sweeping from east to west.\textsuperscript{79} In response, ISIS fighters launched a series of synchronized attacks against Iraqi positions, composed of SVEST IEDs, mortar fire, and a nighttime assault. Although ISIS later highlighted the counterattack on its website, the eventual liberation of Ramadi appeared inevitable.\textsuperscript{80} On December 27, the ISF seizure of the government center.


\textsuperscript{76} “Islamic State Conflict: Iraqi Forces ‘Move into Ramadi,’” BBC, December 22, 2015; Martin, 2015f.

\textsuperscript{77} Warren and Brindle, 2015.

\textsuperscript{78} Al-Jawoshy, Chan, and Fahim, 2015.


reinforced the sense of a pending Iraqi victory (Figure 4.4). As Iraqi forces advanced deeper into the city, ISIS fighters shifted tactics, increasingly relying on snipers, suicide bombers, and improvised traps.81

By December 28, the ISF cleared roughly 75–80 percent of Ramadi—the high point in the seven-month campaign to liberate the Sunni provincial capital. Iraqi Prime Minister Al-Abadi, beleaguered by domestic and foreign political pressures, eagerly announced the liberation of Ramadi. However, ISF control of the city remained tenuous as pockets of ISIS resistance persisted.82 Key positions, such as the Justice Palace and Grand Mosque,


The Battle of Ramadi, October 2015–March 2016

were not completely cleared or secured. Moreover, large swathes of northern Ramadi remained beyond ISF control. The precarious situation was further complicated by concerns among Iraqi and U.S. officials that ISIS fighters escaped in the chaos of the battle. By March 2016, the ISF consolidated control of the city. In the following year, as the wider Anbar campaign continued, the area around Ramadi and the city itself was regularly contested by ISIS forces. For instance, in September 2017, a contingent of roughly 300 ISIS fighters launched a major assault on Ramadi. Local ISF troops, supported by U.S. ground forces, were able to successfully defend and repel the assault. Nevertheless, after months of frustratingly slow progress, the successful liberation of Ramadi represented the first concrete semblance of victory that the ISF achieved against ISIS in Anbar Province.

In the immediate aftermath of the battle, all that remained was a broken city. Ramadi, once home to roughly 400,000, was largely reduced to rubble, with most of its infrastructure destroyed in the campaign against ISIS.

FIGURE 4.4
Ramadi Control Map: December 28, 2015


83 Institute for the Study of War, 2015b.
84 Hassan and Chan, 2015.
85 U.S. Marine Corps field-grade officer, interview with U.S. Army Military History Institute, Taqaddum Air Base, May 6, 2017, transcript provided to RAND.
The absence of running water and electricity was compounded by lingering vestiges of combat, such as an assortment of unexploded ordnance and bombed-out buildings. In response, $50 million was pledged by the United States and its coalition allies to a United Nations reconstruction fund, a small fraction of the estimated $12 billion required to rebuild the city.\textsuperscript{87}

A few months later, the United States contributed additional financial support as Ramadi’s situation remained dire: $15 million to stabilization efforts, $5 million to clearing explosives in Ramadi, and $155 million to support displaced Iraqis. An international fund aimed at restoring economies ravaged by ISIS provided $100 million in funding. But the resources committed to reconstruction paled in comparison with the roughly $6.5 billion cost of the military campaign from 2014 to February 2016.\textsuperscript{88} A 2017 RAND report detailed the immense economic damage inflicted by the brief ISIS occupation of Ramadi (notably significant declines in population, agriculture production, and market activity) and overall destruction of infrastructure. The path to recovery remains an arduous and continuing process.\textsuperscript{89} Reflective of the wider U.S. experience in Iraq, postconflict stabilization and reconstruction in Ramadi were deferred as the territorial fight against ISIS continued. Nevertheless, the Battle of Ramadi served as a decisive turning point for the wider counter-ISIS campaign. Although the ISF were beleaguered by challenges, success in Ramadi revitalized the fractured ISF and set the stage for follow-on victories in Anbar.\textsuperscript{90}


\textsuperscript{90} U.S. Marine Corps general officer, interview with authors, July 20, 2020.
Functional Contributions of U.S. Ground Forces: Ramadi

During the 2015 Anbar campaign, ground elements from CJTF-OIR were stationed throughout Iraq, such as at Al-Assad Air Base and Camp Taji. TQ Air Base served as the principal U.S. operating base for the Ramadi campaign—the focal point of its A&A mission. Unlike in later counter-ISIS operations, CJTF-OIR ground forces were largely restricted to their own bases—a product of the Obama administration policy barring direct U.S. engagement in ground combat operations. Consequently, the roughly 3,500 U.S. military trainers mainly focused on training, equipping, and assisting Iraqi government forces and associated militias. Through myriad training programs, CJTF-OIR developed critical capabilities in the ISF and associated militias, which proved invaluable to the eventual liberation of Ramadi. The overarching CJTF-OIR strategy prioritized generating Iraqi capacity and capabilities to liberate Ramadi with coalition air support. As a result, CJTF-OIR ground forces focused on four main areas: T&E, A&A, medical support, and combat engineering.

Train and Equip

The T&E mission of CJTF-OIR centered on generating sufficient combat capacity and capabilities within the ISF and associated militias to retake Ramadi from ISIS control. The long-standing Obama administration counter-ISIS strategy centered on two parallel efforts: coalition airpower in support of the ISF and training and equipping the ISF. However, with the capture of Mosul and Ramadi, the strategy intensified in June 2015 with the deployment of roughly 450 U.S. service members to TQ. The T&E effort sought to enable the ISF and associated militias to serve as the main force against ISIS, minimizing risk for U.S. ground forces. As a result, U.S. trainers and advisers were constrained to their respective bases, including in exe-

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cation of their T&E mission. This represented a stark departure from the traditional model of T&E activities, in which partner forces and U.S. advisers jointly operated on the front lines.\textsuperscript{94}

Often referred to as build partner capacity (BPC), the T&E mission of CJTF-OIR sought to provide the ISF with necessary skills, equipment, and standard tactics, techniques, and procedures. In June 2015, roughly 1,000 U.S. service members were training nine ISF brigades and three Peshmerga brigades in Baghdad, Irbil, Taji, Al-Asad, and Besmaya. The U.S. contingent was augmented by about 1,500 trainers from coalition partners, such as the United Kingdom, Norway, Australia, New Zealand, Italy, Germany, and Spain.\textsuperscript{95} By December 2015, roughly 3,500 U.S. service members were deployed across six bases in support of the ISF—both in T&E and A&A

\begin{figure}
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\textit{NOTE: At Camp Taji, Iraq, Iraqi soldiers from 2nd Battalion, 76th Brigade, 16th Division, participate in an urban assault exercise.}

\textsuperscript{94} McInnis, 2015, pp. 2–3.
\textsuperscript{95} Katzman, 2015, pp. 29–30.
roles. U.S. trainers, mainly U.S. Army soldiers, instructed the ISF in a variety of courses and capabilities, such as weapons proficiency, urban combat skills, convoy operations, squad movements and assaults, competitive field exercises, driver courses, and six-week breach lane training.

Based at Camp Taji, TFP, composed of 1,300 paratroopers from the 3rd BCT, 82nd Airborne DIV, served as a major node for the CJTF-OIR T&E mission. TFP trained and advised the Iraqi 9th, 15th, and 16th DIVs. During its nine-month deployment, TFP trained and advised roughly 12,400 Iraqi soldiers. TFP training programs emphasized both combat and leadership skills, such as small-unit leadership and proficiency with M224 60mm mortar systems and M240B machine guns. To avoid a repeat of the disorganized defense of Ramadi in May, TFP sought to create combat-ready units that were better equipped, better trained, and more cohesive. Ultimately, the 16th IA DIV, along with other U.S.-trained units, provided crucial combat power for the liberation of Ramadi. ISF units received training in first aid and combat engineering, which are discussed further in later sections. Unlike previous iterations of T&E activities, CJTF-OIR emphasized building conventional military capabilities in their ISF—a departure from the COIN-centric model of previous years. This was a direct response to the


99 Michelle Tan, “82nd Airborne Trains Iraqis to Take on ISIS in Ramadi,” Army Times, November 5, 2015.

100 Institute for the Study of War, 2015b.

more conventional threat of ISIS, which sought to seize and hold territory through military conquest.102

Although the majority of the T&E activities were executed at rear bases, limited T&E activities were conducted at the forward edge by TFTQ. Benefiting from colocation with the 8th IA DIV, TFTQ conducted several training programs in support of its main A&A mission.103 TFTQ training programs were wide-ranging and featured communication and radio operations, wide-area security force training, and artillery skills.104 The training regime provided fundamental infantry skills—such as room-clearing techniques, small-unit tactics, firearms and weapons manipulation, AT-4 proficiency, and patrolling techniques.105 Additionally, Al-Asad Air Base served as a training site for the BPC program, which included elements from the 7th IA Army.106

In reference to the liberation of Ramadi, Army Lieutenant General MacFarland commented on the lessons learned in regard to CJTF-OIR’s T&E mission:

We’ve shifted away from counterinsurgency toward combined arms maneuver training, teaching the Iraqis how to integrate infantry, armor, artillery, engineers, aviation and other combat multipliers to achieve an overwhelming advantage at the right place and time on the battlefield.107

Under the fiscal year (FY) 2015 National Defense Authorization Act, Section 1236, the U.S. government authorized $1.6 billion through Decem-

103 Hurtado, 2016a.
105 U.S. Marine Corps noncommissioned officer, interview with authors, June 29, 2020; Hurtado, 2016a; Schehl and Fuentes, 2016.
ber 2016 to specifically train and equip the ISF, including Kurdish and tribal militias.\textsuperscript{108} From the appropriated funds, $1.24 billion was allocated to equip nine IA brigades and $24.1 million to support Sunni irregular forces. The total funding committed to ISF capacity-building programs roughly totaled $3.07 billion, including funding from the Iraqi government and coalition partners.\textsuperscript{109} This continued a long-standing tradition of FMS to the Iraqi government. Previous FMS were of F-16s, Apache attack helicopters, and M1151AI Up-Armored HMMWVs. In May 2015, the United States sought to accelerate the delivery of 2,000 shoulder-held antitank rocket launchers.\textsuperscript{110} Because of the Arms Export Control Act, the transfer of military equipment to subnational actors, such as the Sunni militias, remained prohibited.\textsuperscript{111} Section 1201 of the FY 2016 defense authorization sought to broaden authorities to arm militia groups but was vetoed in October 2015.\textsuperscript{112} The complicated and often ill-defined process of equipping Iraqi forces proved problematic. Even when equipment was delivered, basic elements were routinely missing from shipments. For instance, a delivery of 300 M-16 rifles for the ISF was accompanied by only seven cleaning kits. Furthermore, the entire process lacked transparency, accountability, and timeliness.\textsuperscript{113}

The T&E mission of CJTF-OIR was not immune to criticism, often characterized as insufficient and incremental in nature. Some analysts and commenters advocated a more proactive role of U.S. ground forces, such as embedding U.S. advisers with ISF units in combat operations.\textsuperscript{114}


\textsuperscript{109} U.S. Department of State, 2015, p. 36; Katzman, 2015, p. 31.

\textsuperscript{110} For more-detailed information on equipment purchased for the ISF, see Appendix A (“U.S. Equipment Purchases for Iraq’s Security Forces”) in U.S. Department of State, 2015.

\textsuperscript{111} Katzman, 2015, pp. 11–12, 30–31.


\textsuperscript{114} McInnis, 2015, p. 4.
Operation Inherent Resolve: U.S. Ground Force Contributions

The slow pace of the Ramadi campaign only exacerbated criticisms of the T&E model. In October 2015, Congress held a series of hearings on the effectiveness of the T&E strategy in Iraq. Similarly, the DoD inspector general launched a series of investigations and reports that questioned the utility of T&E programs—citing illiteracy of recruits, Iraqi corruption, leadership deficiencies in IA brigades, and a scarcity of qualified U.S. advisers.\textsuperscript{115} And despite training roughly 9,000 ISF personnel by late May 2015, the T&E program proved unable to meet the original goal of 24,000 trained personnel by fall 2015—achieving only 46 percent of its original goal. This was attributed to the scarcity of Iraqi recruits.\textsuperscript{116}

In spite of its numerous challenges, the successful liberation of Ramadi partially vindicated the T&E approach. Furthermore, by the end of the


\textsuperscript{116} Katzman, 2015, p. 29; U.S. Department of State, 2015, p. 33.
III Armored Corps’s tour in 2016, the unit had trained an estimated 4,000 IA soldiers, 1,500 CTS soldiers, 1,000 Federal Police officers, 300 border guards, and 6,000 Kurdish Peshmerga fighters. Moreover, III Armored Corps boasted that an estimated 20,000 tribal fighters were enrolled in its training program. The process of training and equipping a capable Iraqi force proved to be a months-long process, requiring both patience and planning. Over time, as ISF divisions took shape, battlefield opportunities were exploited and leveraged.

**Advise and Assist**

The A&A mission of CJTF-OIR stemmed from two JOCs, one paired with the ISF in Baghdad and another paired with the Peshmerga in Erbil. Admittedly, T&E and A&A missions often blurred as U.S. units possessed multifaceted roles. For instance, TFTQ performed both T&E and A&A roles in support of the ISF. Nevertheless, for the purposes of this discussion, the A&A missions of CJTF-OIR are defined as direct A&A roles in support of ongoing combat operations. The broad mandate allowed for myriad supporting activities, from coordinating air strikes to hosting command post exercises for ISF commanders.

Several U.S. units participated in A&A missions for CJTF-OIR, notably the 3rd BCT, 82nd Airborne DIV and the 1st BCT, 10th Mountain DIV. Still, among U.S. ground forces, TFTQ, based out of Camp Manion at TQ.

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118 Carter, 2017b, p. 17.

119 Katzman, 2015, p. 29.

120 Hurtado, 2016a; Schehl and Fuentes, 2016.


122 3rd BCT, 82nd Airborne DIV was also called Task Force Panther. 1st BCT, 10th Mountain DIV was also called Task Force Warrior. Judson, 2015; Cheryl Cox, “Warrior Brigade Assumes Mission in Iraq,” U.S. Army, September 21, 2015.

123 Camp Manion is the U.S. Marine Corps base within the larger air base at TQ. In 2015, the camp was named after 1st Lt. Travis Manion (U.S. Marine Corps), who was
served as the principal A&A component of CJTF-OIR for the Ramadi campaign. Established in June 2015, TFTQ was a direct response to the fall of Ramadi, prompting a rapid deployment of roughly 450 service members to TQ. TFTQ was composed of elements from II MEF, augments from SPMAGTF-CR-CC, U.S. Army 1ID, Air Forces Central Command, and coalition forces from Australia and Italy.124 By September 2015, roughly 400 marines at TQ and 320 marines at Al-Asad were assisting their Iraqi counterparts.125 TFTQ provided assistance to the AOC, Anbar National Police, CTS, and 8th, 10th, and 16th IA DIVs.126 Colocated with both the AOC and the 8th IA DIV, members of TFTQ served as full-time advisers to their Iraqi counterparts. The colocation of coalition and Iraqi forces aimed to create coordination, both at the Combined Joint Operations Center (CJOC) and in the A&A units. This caused friction and tensions; the integrated command centers were not immune to the wider politics of the country or its sectarian issues.127

Marines from the 3rd Battalion, 7th Marines, helped coordinate combat operations, assisted in logistics and operational planning, and served in key mentorship roles. Other TFTQ contributions involved intelligence, surveillance, and coordinated reconnaissance flights, air support, and help in coordinating strikes with coalition aircraft.128 Restricted by policy constraints, Paladins were based at TQ; HIMARS were stationed at Al-Asad. The primary mission of the Paladins and HIMARS at this stage was restricted to force protection and counterbattery fire in limited instances.129 Surface fires killed in action in Anbar Province on April 29, 2007.

124 Hurtado, 2016a.

125 A company-sized element of marines was stationed at the U.S. Embassy in Baghdad while marines at Al-Asad and TQ were assigned to a tactical recovery of aircraft and personnel mission. Hurtado, 2016a; Dan Lamothe, “Marines Are Flying over Both Syria and Iraq Regularly as Part of a Rescue Force,” Washington Post, December 3, 2015.


129 U.S. Army general officer, interview with authors, March 31, 2020; Steve Warren, “Department of Defense Press Briefing by Col. Warren via Teleconference from Bagh-
were ill suited for the operational demands of the Ramadi campaign and constrained by their short ranges. Aerial strikes—a combination of manned aircraft and unmanned systems—provided nearly all the U.S. and coalition strikes during the Ramadi campaign.130

The A&A mission sought to provide ISF commanders with the expertise and experience of U.S. military advisers. Routinely working side by side, U.S. military advisers and ISF commanders coordinated combat operations in real time in the Ramadi campaign.131 A primary U.S. military adviser was assigned to each division and took part in key leader engagements and coordinated with TF staff.132 Moreover, U.S. military advisers were supposed to serve as role models for their Iraqi counterparts. Through regular and intimate collaboration, the A&A mission sought to instill similar leadership, processes, and organization to the much-maligned IA divisions.133

In describing the A&A mission, a U.S. Marine Corps adviser at the AOC commented:

We are side by side in the fact that we want them to be as successful as if we were out there doing it ourselves. We are aiding them with assistance, we are providing the eyes in the sky, we are providing them with bombs on target, and that gives them the confidence that they are not in the fight alone.134

Because of policy constraints in effect at the time, U.S. military advisers were not allowed to accompany their Iraqi counterparts on combat operations, a departure from the traditional approach to A&A. Historically, U.S. mili-

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130 U.S. Marine Corps general officer, interview with authors, July 20, 2020.
134 Hurtado, 2016a.
tary advisers were attached to partner forces at the tactical level, which had advantages but also introduced significant risk. Reflecting the relatively small operational footprint of U.S. ground forces in the Ramadi campaign, military advisers were principally attached to Iraqi divisions and higher echelons. This approach had the benefit of reducing physical risk to U.S. advisers but came with drawbacks. Advisers cited difficulty overcoming the situational awareness, responsibility, and direct influence that normally accompanies a more participatory approach. Unsurprisingly, after months of little progress in the liberation of Ramadi, DoD was already considering expanding the role of U.S. ground forces in Iraq in October 2015. An option considered at the time was enabling a more active role for U.S. military advisers—potentially moving them closer to combat. This policy shift would later manifest in subsequent liberation operations, treated later in this report.

Medical Support
As a part of the A&A mission, CJTF-OIR provided both medical training and direct support to the ISF. TFTQ, positioned closest to the front lines in Anbar, provided the majority of direct medical support to Iraqi forces. As with other training programs, the bulk of medical training was conducted at bases farther in the rear. For instance, U.S. Army medics led combat life-saver courses for ISF soldiers at the Besmaya Range Complex. In August 2015, noncommissioned officers from the 23rd IA Brigade participated in a medical training at Camp Taji. The course sought to enable Iraqi small-unit leaders to treat their soldiers in various combat situations—such as tourniquet application, leg splinting, and other forms of first aid.

The TFTQ medical team was composed of U.S. Navy corpsmen and marines from II MEF and SPMAGTF-CR-CC, and soldiers from the 772nd

138 Operation Inherent Resolve APO AE 09306, 2015b.
Forward Surgical Team, the 115th Combat Support Hospital. Leveraging their colocation with the 8th IA DIV, TFTQ provided invaluable, real-time medical support to wounded ISF soldiers. This was particularly important during the heavy urban fighting in the later stages of the Ramadi campaign. Referring to the medical support provided by TFTQ, U.S. Marine Capt Charles Dotterrer, the company commander for Bravo Company, 1st Battalion, 7th Marines, noted:

The majority of the casualties come from Ramadi. They are in the front lines in the Ramadi counterattacks, so if something bad happens to them there, they bring them to [TQ] for medical care. 

NOTE: At Camp Taji, Iraq, noncommissioned officers from the 23rd IA Brigade practice combat first aid as part of the Iraqi noncommissioned officer academy.

140 Hurtado, 2016a.
When wounded ISF soldiers arrived at Camp Manion, a Marine Quick Response Force (QRF) immediately secured the entry point and provided security for casualty transfer. Then TFTQ Navy corpsmen served as first responders. They typically assessed injuries, stabilized patients, and performed any necessary emergency care. Additionally, the forward surgical team stationed at TQ provided level 1 medical support, mainly characterized as stabilization care. Afterward, routine injuries were transferred to local Iraqi hospitals; severe casualties were transferred to U.S. Army medical teams. To ensure proper follow-on medical care, casualties were accompanied by a form indicating their injuries, condition, procedures performed, medication administered, and instructions for follow-on treatment.

In late June and early July, the number and severity of casualties intensified as the Ramadi campaign advanced further into ISIS-held territory. Wounded Iraqi soldiers often arrived directly from the front lines—with some days exceeding ten casualties per day. Through the naval corpsmen and Army forward surgical teams, the ISF were able to receive quality emergency medical care in austere environments. As the ISF prepared their final offensive into Ramadi, from October to November 2015, Bravo Company, 1st Battalion, 7th Marines, treated over 130 casualties. The medical support, in terms of both direct care and training, provided an essential element to the wider A&A role of CJTF-OIR.

144 “U.S. Navy Corpsmen, Marines Assist . . . ,” 2015.
145 U.S. Marine Corps noncommissioned officer, interview with authors, June 29, 2020.
146 Aronson, 2017, p. 34.
147 Hurtado, 2016a.
The Battle of Ramadi, October 2015–March 2016

Combat Engineering

Combat engineering, in terms of both training and specialized equipment, provided essential capabilities in the Battle of Ramadi.148 The early campaigns to liberate Ramadi from ISIS control were hampered by ISF disorganization and blunted by elaborate ISIS defensive works. The main approach to Ramadi is generally limited to a single main road, which ISIS littered with defensive IEDs and booby traps. This created a de facto minefield, warding off or significantly delaying ISF advances into the city. Furthermore, ISIS defenders reinforced their defensive network with established machine gun and indirect fire positions. This combination of defensive minefields and overwatch positions proved incredibly lethal as ISIS defenders targeted ISF explosive ordnance disposal (EOD) technicians deployed to disarm mines and IEDs.149

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As the ISF advanced closer to Ramadi, the prevalence of IEDs and other explosive traps only increased. The employment of IEDs, both in offensive and in defensive operations, had become a hallmark of ISIS tactics. Consequently, U.S. military trainers and advisers progressively emphasized conventional warfare tactics, particularly combat engineering and EOD techniques. Even before the fall of Ramadi, soldiers from the 2nd Battalion, 505th Parachute Infantry Regiment, 3rd BCT, 82nd Airborne DIV instructed Iraqi soldiers from the 15th and 16th IA divisions on various combat engineering techniques. This included EOD procedures and fundamental breaching methods for squads and companies. By September 2015, U.S. military trainers emphasized combat engineering capabilities in earnest—specifically to counter ISIS IEDs. Counter-IED training teams were deployed to Taji, Besmaya, and Al-Asad to augment existing training programs. U.S. military trainers began teaching ISF soldiers to employ in-stride breaching using the anti-personnel obstacle breaching system, which fires a small rocket with an explosive rope attached. This creates a lane through a minefield that soldiers can use to advance. Other combat engineering capabilities involved the implementation of mine clearing line charges, a technique using multiple explosives to create a clear path for soldiers. During the decisive phase of the Battle of Ramadi, the ISF used mine clearing line charges to breach the southern neighborhoods of Ramadi.

Under the T&E program, the ISF received specialized equipment to enhance their combat engineering capabilities. Counter-IED purchases totaled roughly $88.5 million, a significant rise from $7.4 million the previous quarter. For instance, in July, the ISF received 30 mine-resistant ambush-protected vehicles with mine-roller attachments to counter ISIS

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150 Pellerin, 2015a.
151 Borden, 2015.
mines and IEDs. Furthermore, armored bulldozers provided by the United States proved incredibly versatile in support of ISF combined arms operations in Ramadi. To protect vulnerable flanks, the ISF built dirt berms using 21 armored bulldozers. This provided cover for advancing soldiers and protection against VBIEDs, a common tactic employed by ISIS fighters. The armored bulldozers were used to push IEDs and minefields out of the way. The ISF adeptly used combat engineering to enable maneuver space and mobility.

At a BPC site in Baghdad, soldiers from the 814th Multi-Role Bridging Company instructed Iraqi engineers attached to the 15th IA DIV on how to assemble an improved ribbon bridge. Later, on December 22, 2015,

155 U.S. Department of State, 2015, pp. 36, 42.
156 Lamothe and Gibbons-Neff, 2015.
these bridges were employed to cross the Euphrates River during the final assault of Ramadi. With all the existing bridges demolished by ISIS forces, the improved ribbon bridge proved invaluable in providing a point of penetration for ISF troops. The bridging capability enabled the ISF to bypass constellations of IEDs and booby traps—cutting to the center of Ramadi. In the end, combat engineering proved to be one of the most essential capabilities provided to the ISF by U.S. ground forces. It and the three other functional contributions discussed are summarized in Table 4.2.

**Conclusion for Ramadi Case**

Despite the eventual military success of the campaign, the Battle of Ramadi underscored several deficiencies in the ISF and the fragile state of affairs in Iraq. Sectarian divisions in Iraqi politics, a product of long-standing grievances between Sunnis and Shi’a, remained a persistent challenge. ISIS exploited Sunni discontent to seize Ramadi in 2014 and 2015, and subsequent attempts to liberate the city were hampered by sectarian infighting between Sunni and Shi’a factions. The issue was highlighted by the inability of the Shi’a-dominated Iraqi leadership to rapidly and properly equip a Sunni force to liberate Ramadi. Despite initial hopes of heavy Sunni militia involvement, the Sunni militias ultimately played a minimal role in the eventual liberation of the city. In contrast, the central government’s reliance on the PMF was evident in the early campaigns to retake Ramadi. Even in the aftermath of the battle, sectarian tensions delayed the arrival of Sunni militias to serve as a hold force. Furthermore, the

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160 Arango, 2015c.

161 Lamothe and Gibbons-Neff, 2015.


The Battle of Ramadi, October 2015–March 2016

The ISF C2 structure proved ill prepared to coordinate the ad hoc coalition of ISF, Sunni, and international forces. Despite several advantages—such as a 10-to-1 advantage in correlation of forces, air superiority, and superior equipment—the ISF were repeatedly unable to produce meaningful results on the battlefield.\(^\text{164}\)

In terms of CJTF-OIR ground contributions, the Ramadi campaign proved to be a testing ground for the two-pronged strategy of training local forces and providing coalition air support. The experience provided CJTF-OIR a model in how to train and advise ISF units moving forward.\(^\text{165}\) The shortcomings of the operation, which included insufficient recruits for training and a frustratingly slow pace of progress, provided critical lessons for subsequent operations. Efforts were further complicated by the Iraqi government’s reluctance to increase the scope of U.S. visible presence on

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\(^{165}\) Cronk, 2016.

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### TABLE 4.2

**Summary of Contributions of U.S. Ground Forces, Ramadi**

<table>
<thead>
<tr>
<th>Functional Contribution</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>T&amp;E</td>
<td>U.S. ground forces trained IA divisions in fundamental combat skills, such as marksmanship, room-clearing techniques, small-unit tactics, and driver courses. They equipped IA divisions with a variety of equipment, such as rocket launchers, vehicles, and small arms.</td>
</tr>
<tr>
<td>A&amp;A</td>
<td>U.S. ground forces served as military advisers, providing operational support. This consisted of intelligence, surveillance, coordination with coalition airpower, mentorship, operational and logistical planning, and general military expertise.</td>
</tr>
<tr>
<td>Medical support</td>
<td>U.S. ground forces provided direct medical support to IA units through Navy corpsmen and Army Forward Surgical Teams. They provided medical training to IA units.</td>
</tr>
<tr>
<td>Combat engineering</td>
<td>U.S. ground forces provided both training and equipment to improve the combat engineering capabilities of IA units. This included breaching techniques, armored bulldozers, and bridging capabilities.</td>
</tr>
</tbody>
</table>
the ground, reflected in its rejection of a proposal to deploy U.S. Apache helicopters.\footnoteref{166}

In an effort to consolidate command, Lieutenant General MacFarland assumed command in September 2015, which produced dividends as the Ramadi campaign became increasingly complex.\footnoteref{167} In the end, despite numerous challenges, CJTF-OIR ground forces provided critical capacity and capabilities, such as bridging assets and fundamental combat skills, necessary to liberate Ramadi. Perhaps most importantly, U.S. participation in T&E and then A&A gave the Iraqis confidence to move forward on what was previously a stalled front. Paraphrasing Winston Churchill, Lieutenant General MacFarland said:

> The liberation of Ramadi was the end of the beginning of the campaign against [ISIL]. The beginning of the end will be the liberation of Mosul, Iraq’s second-largest city. Once it is recaptured, the enemy in Iraq will be reduced to scattered pockets of resistance and that is now our focus.\footnoteref{168}

Building on the progress realized and lessons of the Ramadi campaign outlined in this chapter, we next profile our second case study in the Euphrates River valley: Fallujah.

\footnoteref{166} Al-Jawoshy, Chan, and Fahim, 2015; Kenneth M. Pollack, “Iraq After the Fall of Ramadi: How to Avoid Another Unraveling of Iraq,” Brookings Institution, May 22, 2015.
\footnoteref{167} Carter, 2017b, pp. 17–18.
\footnoteref{168} Cronk, 2016.
CHAPTER FIVE

The Battle of Fallujah,
December 2015–June 2016

On January 1, 2014, militants affiliated with ISIS drove into the city of Fallujah, a predominantly Sunni Arab city located just 60 km west of Baghdad.\(^1\) With an estimated 300,000 inhabitants prior to ISIS’s takeover, Fallujah is the second-largest city in Anbar Province.\(^2\) Fierce fighting erupted as the militants destroyed the local police headquarters and mayor’s office and seized control of key intersections.\(^3\) On January 3, at the close of Friday prayers in a city park, the militants took the stage from local religious leaders and declared the city of Fallujah to be an Islamic state. It was the first major city in Iraq to be seized and then successfully held by ISIS.\(^4\) (See Table 5.1 for a timeline of the battle.)

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\(^1\) Zack Beauchamp, “ISIS Controlled Fallujah Longer Than Any Other Iraqi City. Iraq Just Took It Back,” *Vox*, June 27, 2016. In the first half of 2014, ISIS achieved significant territorial gains in Iraq. After seizing Fallujah in January, the group captured Mosul, Tikrit, and Tal Afar in June.

\(^2\) Zana Gulmohamad, “Unseating the Caliphate: Contrasting the Challenges of Liberating Fallujah and Mosul,” *CTC Sentinel*, Vol. 9, No. 10, October 2016. By the start of the operation to retake the city, however, the civilian population had dwindled to the tens of thousands. Shane Harris and Nancy A. Youssef, “This City Could Be the Next Big Battle of the ISIS War,” *Daily Beast*, May 18, 2016.


\(^4\) Yasir Ghazi and Tim Arango, “Iraq Fighters, Qaeda Allies, Claim Falluja as New State,” *New York Times*, January 3, 2014a. In the weeks following the ISIS takeover of the city, the local military council, along with several Sunni tribal groups, came to an
TABLE 5.1
Stages of the Battle of Fallujah

<table>
<thead>
<tr>
<th>Stage</th>
<th>Time Frame</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISIS seizure of Fallujah</td>
<td>January 2014</td>
<td>ISIS seizes Fallujah and declares it to be an Islamic state, making it the first major city in Iraq to come under ISIS control.</td>
</tr>
<tr>
<td>Failed efforts to retake Fallujah</td>
<td>January 2014–November 2015</td>
<td>The ISF and PMF engage in repeated efforts to retake control of Fallujah. These efforts are unsuccessful.</td>
</tr>
<tr>
<td>Shaping operations</td>
<td>December 2015–May 2016</td>
<td>The ISF and PMF, with support from the coalition, encircle and isolate Fallujah.</td>
</tr>
<tr>
<td>Operation Breaking Terrorism, Phase I</td>
<td>May 2016</td>
<td>The ISF and PMF advance toward Fallujah along three axes, retaking areas on the outskirts of the city.</td>
</tr>
<tr>
<td>Operation Breaking Terrorism, Phase II</td>
<td>May–June 2016</td>
<td>Over the course of several weeks, the ISF advance into the city center and retake control of Fallujah from ISIS.</td>
</tr>
</tbody>
</table>

**Shaping Operations: December 2015–May 2016**

For nearly two years, both the ISF and Shi’a militias combating ISIS failed to retake control of the city.⁵ In December 2015, as the neighboring battle for Ramadi intensified, renewed efforts to retake Fallujah got underway.

informal agreement with ISIS. Under the agreement, they would tolerate the presence of ISIS in the city as long as ISIS did not launch revenge attacks against public property or public officials, raise the ISIS flag within city limits, or force residents to swear allegiance to the group. The agreement dictated that ISIS should coordinate its activities with the local military council. This arrangement persisted until the beginning of the operation to liberate the city. See El-Hamed, 2014.

⁵ In the first months after ISIS seized control of Fallujah, the Iraqi military came up with a strategy to retake the city. This strategy called for the IA to cordon off the city, enabling Sunni tribal groups to lead a mission to secure Fallujah one neighborhood at a time. However, the United States did not offer to back Iraqi forces with air strikes. See Gordon and Adnan, 2014. Beginning in April 2015, Shi’a militias, reportedly operating as Iranian proxies, unsuccessfully pushed for the ISF to launch a new operation to retake Fallujah. In July 2015, the Badr Organization, an Iranian-backed militia group, launched a failed operation to recapture the nearby town of Saqlawiyah. See Patrick Martin, “The Campaign for Fallujah: May 26, 2016,” Institute for the Study of War, May 27, 2016b.
On December 10, Marine Corps Col Steve Warren, a spokesman for OIR, announced at a press conference that isolation operations around the city were ongoing, the purpose of which were to encircle the city. Several thousand Iraqi forces, led jointly by the ISF and supported by the PMF, had begun the process of cutting off and isolating Fallujah. By December 29, the ISF and PMF were approaching Fallujah from three directions. This effort was coordinated by the Baghdad Operations Command (BOC) and the AOC.

This shaping or encircling operation employed many of the same tactics that had been used in the recent offensive in Ramadi. And it helped that most of the key forces involved in the Fallujah operation had just experienced the fight in Ramadi, where they saw firsthand ISIS defensive tactics and widespread use of VBIEDs. In Ramadi, as Colonel Warren described it, the “attacking force [had] position[ed] itself all the way around the city in various locations along the primary avenues in and out.” They had “essentially . . . encircle[d] the city, almost like a boa constrictor [and] then squeeze[d] in closer and closer . . . until eventually they [were] able to finally clear it.” As the shaping operation continued, ISIS began constructing a perimeter around the city. This perimeter was reinforced by trenches. Although it was expected that ISIS would defend the perimeter and reinforce any sections that came under attack, coalition planners thought that ISIS would be more vulnerable within the perimeter. The logic was that ISIS fighters would be less willing to defend the heart of the city, where they lived alongside local sympathizers, as they understood that a fight to the death

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6 Warren, 2015c. When asked whether the forces had been trained and equipped by the United States, Col. Warren stated that most of them were not U.S.-trained. Rather, the majority of U.S.-trained forces were engaged in the area of Ramadi. Also see George Allison, “Iraqi Forces Recapture the City of Fallujah from Islamic State,” UK Defence Journal, June 27, 2016.

7 Warren, 2015d.

8 U.S. Army field-grade officer, interview with authors, June 17, 2020. The area of operations in Anbar Province was divided between the Jazeera Operations Command, which had responsibility for the territory west of Ramadi, and the AOC, which had responsibility for the territory south of the Euphrates River.

would lead to the physical destruction of the central neighborhoods and increase the collateral risk to any remaining supporters in the city. Meanwhile, Sunni tribal groups inside the city provided intelligence to the ISF and the coalition that helped in preparing for the next phase of the operation.

Through the early months of 2016, ISIS successfully defended a static perimeter around Fallujah. In January and early February, the ISF engaged in clearance operations on the outskirts of Fallujah, moving from Lake Tharthar, located northwest of the city, along the Tharthar Canal and toward the town of Saqlawiyah. The area around Lake Tharthar served as an enemy support zone, enabling ISIS to maintain its presence in Fallujah. The CJTF-OIR spokesman noted that “those [ISIS] forces inside of that Lake Tharthar support zone . . . are able to funnel men, materiel and equipment through various ratlines into Fallujah to sustain the ISIL fighters that are there.” The effort aimed to cut off these ISIS supply lines into the city (Figure 5.1).

The IA played an important role in the ongoing clearance operations. The Iraqi 14th DIV undertook clearance operations near the Albu Shajal area (to the northwest of Fallujah) and in Garma (to the north). South of Fallujah, the Iraqi 8th Infantry DIV advanced toward the city. The Iraqi 10th Infantry DIV had responsibility for key areas in Falahat (to the west of the city) and Al-Salam Junction (to the southwest). During this period, however, key Iraqi forces were engaged in other fights, such as residual clear-

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10 U.S. Army field-grade officer, interview with authors, February 20, 2020.
11 Gulmohamad, 2016.
14 Warren, 2016a.
16 Iraqi Joint Military Operations, Media Cell, Daily Summary of Military Operations, February 26, 2016b (available via the cell’s official Facebook page).
The Battle of Fallujah, December 2015–June 2016

ance operations in Ramadi, the clearing of Hamidiyya (located just east of Ramadi), and operations in the Tigris River Valley. Although government forces were closing in on Fallujah, progress remained slow.

By the end of February, the ISF and PMF had succeeded in retaking control of three areas on the outskirts of Fallujah: an area to the north and northwest of the city near Saqlawiyah, an area to the east of the city near Garma, and an area to the south of the city near Nuaimiya (Figures 5.2 and 5.3). By early April, the IA had come within 2 km of the Makhtoul Bridge, a key logistical supply line outside Fallujah. Within several weeks, the ISF had succeeded in establishing a functional blockade of remaining ISIS supply lines outside Fallujah.

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18 Allison, 2016.

19 Steve Warren, “Department of Defense Press Briefing by Col. Steve Warren via Teleconference from Baghdad, Iraq,” press release, Operation Inherent Resolve, April 7, 2016d. This effort was led by the 14th IA DIV.
FIGURE 5.2
Map of Fallujah Showing Location of Saqlawiyah, Garma, and Falahat Districts

FIGURE 5.3
Map of Fallujah Showing Location of Nuaimiya, Shuhada, and Golan Districts
into the city.\textsuperscript{20} Although the ISF advance tightened the cordon around Fallujah, ISIS retained the ability to inflict casualties on Iraqi government forces and aligned militias. In early March, for example, ISIS fighters killed two Iraqi soldiers when a suicide bomber detonated next to their vehicle. Two other government forces were killed in separate attacks by ISIS snipers, including a regiment commander of the 30th Brigade of the 8th IA DIV.\textsuperscript{21}

Just as the ISF faced physical risk from ISIS counterattacks, Iraqi civilians were vulnerable to ISIS reprisals and susceptible to becoming caught in the siege of the city. To manage the exodus of civilians from Fallujah, the Iraqi military designated three bridges as exit corridors to be used by Iraqi citizens who wished to flee the fighting and receive humanitarian aid. Internally displaced persons (IDPs) were notified of where they would be transported if they availed themselves of these exit options.\textsuperscript{22}

On May 7, the ISF and local Sunni tribal groups worked together to recapture Al-Salam Junction, located to the south of the city.\textsuperscript{23} In mid-May, additional Shi’a militias, notably Kata’ib Hezbollah and Harakat Al-Nujaba, deployed their forces to the Fallujah area.\textsuperscript{24} On May 19, the ISF retook control of the town of Rutbah, located southwest of Fallujah, raising the Iraqi flag over the local council building in the town center. This victory represented an important precursor to the liberation of Fallujah. Rutbah had “outsized strategic value” because of its location on transit routes to both Jordan and Syria. Seizing Rutbah denied ISIS a “critical support zone.” During the two-day battle to recapture the town, moreover, Iraqi forces experienced less resistance than expected from ISIS. According to commentators, this indi-


\textsuperscript{21} “Qatla lil Jaysh bi Al-Fallujah wa Ma’rak bi Kirkuk wa Al-Ramadi [Military Fatalities in Fallujah and Battles in Kirkuk and Ramadi],” \textit{Al Jazeera}, March 12, 2016.

\textsuperscript{22} Joint Military Operations Command Republic of Iraq, Public Statement, Facebook, March 25, 2016b.


\textsuperscript{24} Martin, 2016a.
cated that ISIS had already shifted its attention to Fallujah, where months of isolation operations had paved the way for the upcoming offensive.25

Debates Regarding the Timing of the Fallujah Offensive

In the months leading up to the Fallujah offensive, the timing of the operation was the subject of considerable debate, both within the coalition and between the coalition and its Iraqi partners. Although the coalition and the Iraqis agreed on the necessity of liberating Fallujah, they disagreed on the prioritization of this effort. Because ISIS was using Fallujah to stage attacks on Baghdad, the liberation of the city was a greater near-term priority for the Iraqi political and military leadership, many of whom were “pushing Fallujah” as the next step in the fight.26 The encirclement of Fallujah by the PMF, which was eager for the offensive to begin, influenced how the Iraqi leadership prioritized the liberation of the city. The Iraqi leadership feared that if the ISF did not move forward and breach the perimeter around the city, Shi’a militias would take matters into their own hands. As a result of this dynamic, the commander of the BOC, General Abdul-Amir Al-Shamari,27 was caught between the PMF, which was eager to see the offensive begin, and the coalition, which did not want to be seen as capitulating to the militias in terms of the timing of the offensive.28

The coalition understood these concerns. Coalition advisers generally agreed that the liberation of Fallujah would improve the security situation in Baghdad, thereby “tak[ing] some of the pressure off the political leadership” of the country and allowing the civilian population of Baghdad to “rest a little easier.”29 They believed that the longer that ISIS remained entrenched in Fal-

26 U.S. Army general officer, interview with authors, July 9, 2020.
28 U.S. Army field-grade officer, interview with authors, June 17, 2020.
29 Warren, 2016b.
lujah, the more incompetent the coalition and the Iraqi government would appear, which weighed in favor of proceeding more quickly. Some coalition advisers were concerned, however, that once Fallujah had been retaken, there would be increased pressure to push toward Mosul. If the Fallujah offensive proceeded too quickly, there would not be enough time to rebuild the ISF before turning to Mosul. It was important, therefore, to make sure that the conditions were set for Mosul before beginning the Fallujah offensive. Explaining this logic to the Iraqis was one of the roles of U.S. forward advisers.

Although coalition advisers understood why the Iraqis wanted to prioritize clearing Fallujah, the coalition still preferred to bypass the city for the time being and prioritize the liberation of Mosul. The coalition perceived that ISIS was increasing its attacks on Baghdad to keep the ISF in the vicinity of the capital and divert attention from Mosul. This strategy allowed ISIS to dictate the terms of the fight. By prioritizing the liberation of Mosul, the coalition could put ISIS on the defensive and better shape the fight.

This tension was reflected in coalition messaging regarding the timing of the upcoming Fallujah offensive. A few weeks before the offensive began, Colonel Warren explained that “where the liberation of Fallujah falls in the sequence of events” had “not yet been determined.” There was “continued discussion . . . throughout the Coalition and the Iraqi chain of command” regarding the timing of the offensive, although he promised that Fallujah would be “liberated eventually.” Just ten days before the offensive, Colonel Warren announced that the ISF were “begin[ning] to chip away at Fallujah,” but decisions still had to be made regarding where Fallujah would

30 U.S. Army field-grade officer, interview with authors, June 17, 2020. Another interviewee explained that the Iraqis wanted to clear out the Euphrates River Valley before turning to Mosul, while the coalition wanted to go straight to Mosul. U.S. Army general officer, interview with authors, July 9, 2020.
31 U.S. Army field-grade officer, interview with authors, June 17, 2020.
33 Warren, 2016f.
“[fall] in the sequence—Fallujah before Mosul, Fallujah after Mosul.”³⁴ In the end, however, the coalition agreed to proceed with the liberation of Fallujah before turning to Mosul.

**Operation Breaking Terrorism: May–June 2016**

Late in the evening of May 22, Iraqi Prime Minister Al-Abadi announced that an offensive to liberate Fallujah from ISIS would begin in the early hours of the morning.³⁵ For Al-Abadi, the stakes were high. The offensive came during a period of instability for the central government. Iraq’s Council of Representatives had recently failed to reach the quorum required to hold a Sunday session because of boycotts by several political parties, and Prime Minister Al-Abadi was increasingly perceived to be ineffectual.³⁶ In late April and May, Sadrist demonstrators had broken into Baghdad’s Green Zone and major government buildings, clashing with ISF units stationed in the capital. By May 20, the situation had worsened to the point that members of the Golden Division, an elite unit within the CTS, were deployed to Baghdad, where they closed the entrance to the Green Zone. Amid the unrest in the capital, ISIS launched a series of attacks within Baghdad and its environs. On the eve of the Fallujah offensive, the ISF were stretched thin as they dealt with multiple counter-ISIS operations in Baghdad.³⁷

Major General Abdulwahab Al-Saadi, a high ranking member of the CTS and the former commander of the Salah Al-Din Operations Command, was placed in charge of the operation, named Operation Breaking


³⁵ Martin, 2016a.


³⁷ ISIS launched major attacks in Eastern Baghdad on May 11 and 17. It launched attacks in the towns of Balad and Dujail in Salah Al-Din Province on May 13 and 22. See Martin, 2016b.
Terrorism. The ISF led the operation, although the offensive’s participants also included local Sunni tribal fighters and an assortment of Shi’a militias operating under the umbrella of the PMF. Taken together, approximately 30,000 Iraqi ground forces participated in the offensive; at the beginning of the offensive, there were estimated to be between 3,500 and 4,000 ISIS fighters inside the city. The city itself remained firmly under ISIS control, with some of the city environs liberated and others still controlled by ISIS (see Figure 5.4).

Phase One: May 23–27
The offensive began in the early morning of May 23. The overarching strategy for the first phase of the offensive was to advance toward the city along three main axes. Arab press accounts reported that ISF commanders conducted the final planning for the offensive at Camp Mazraa. The IA approached the city from the north, the Federal Police approached the city from the east, and the CTS approached the city from the south. This strategy was designed to give ISIS fighters an open door to the west of the city and encourage them to retreat into the open desert. At the same time, however, it made it more challenging to coordinate advisory efforts among different elements of the coalition. The IA advance along the northern axis was

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38 Martin, 2016b.

39 At least five IA detachments and as many as 20,000 Federal Police officers participated in the offensive. At the outset of the operation, the United States insisted that coalition air strikes would not be used to back Shi’a militias, although this proved difficult because of the close coordination between the militias and the ISF. See Martin, 2016b.


41 Leading up to the offensive, the Iraqi government urged residents of Fallujah to evacuate the city and offered to ensure safe passage. According to locals, however, ISIS would not allow residents to leave the city. The Iraqi government instructed those who could not evacuate to put white flags over their homes. The effect of this measure on civilian casualties during the offensive is unclear. See Glascock, 2016.

overseen by the BOC, whose advisers were from the CJFLCC; the CTS was advised by CJSOTF-Iraq; and the Federal Police had no coalition advisers.\textsuperscript{43}

On the first day of the offensive, the CTS advanced toward the city from the southern district of Nuaimiya.\textsuperscript{44} This initial approach was selected for two reasons. First, Nuaimiya was closer to the city center than either Saqlawiyah or Garma. Second, the area surrounding Nuaimiya had less agricultural land, which could provide cover for ISIS fighters.\textsuperscript{45} The same day, the PMF advanced toward Fallujah along the northern axis, engaging in fight-

\textsuperscript{43} U.S. Army field-grade officer, interview with authors, June 17, 2020.

\textsuperscript{44} Gulmohamad, 2016.

ing in the vicinity of Garma,⁴⁶ and announced that it had seized the towns of Harariyat, Shahabi, and Dwaya.⁴⁷ From TQ Air Base, located southwest of the city, the coalition provided artillery strikes and helped coordinate close air support.⁴⁸ Overnight, the United States and Iraq carried out air strikes on ISIS targets in the center of Fallujah.⁴⁹

In the first few days of the operation, it appeared that Iraqi forces would be able to make rapid progress along the three main axes of advance. On the eastern axis, the PMF consolidated its holdings around Garma.⁵⁰ On May 24, using a formerly abandoned cement factory about 5 km east of Fallujah as a base, Iraqi forces directed artillery fire into the city. Reporters described a chaotic scene as “hundreds of fighters aligned with the government, including federal police, SWAT [special weapons and tactics] forces, and at least seven well-armed Shiite militia groups, flooded into the dusty scrubland around” the factory.⁵¹ It was reported that Iranian Revolutionary Guard-Quds Force Commander Qasem Soleimani had met with Shi’a militias on the outskirts of Fallujah.⁵² The same day, the 6th and 14th IA divisions retook control of the villages of Luhaib and Albu Khanfar, both located in the vicinity of Garma.⁵³

On May 25, Iraqi forces regained control of additional districts to the southeast of Fallujah and succeeded in creating a corridor that split the ISIS-

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⁴⁷ Salim and Cunningham, 2016.

⁴⁸ Steve Warren, “Department of Defense Press Briefing by Col. Steve Warren via Teleconference from Baghdad, Iraq,” press release, Operation Inherent Resolve, May 27, 2016h. In the first phase of the operation, the coalition carried out 20 air strikes and killed “more than 70 enemy fighters.”


⁵³ Ryan and Salim, 2016.
controlled zone around the city in two (see Figure 5.5). The same day, a contingent of Federal Police deployed to the districts to the west of Fallujah.54 By the evening, Maher Al-Bilawi, the top ISIS commander in Fallujah, had been killed in a coalition air strike.55 The following day, Iraqi forces retook the town of Garma, located 16 km to the northeast of Fallujah.56

**Phase Two: May 28–June 28**

In spite of these early successes, there was limited progress in recapturing areas to the north of the city, especially around Albu Shajal and Saqlawiyah.57 In the first phase of the operation, ISF conventional units and PMF militiamen had taken casualties, with the Arab press reporting that 80 progovernment fighters had been killed and 100 wounded.58 Even so, on May 28, the ISF declared that the first phase of Operation Breaking Terrorism was coming to an end, and the next phase of the operation, which would focus on retaking the city center, was beginning.59 This shift coincided with the deployment of a reported 5,000 CTS forces to Camp Mazraa and Camp Tariq.60 On May 29, during operations along the northern axis, the ISF seized a key bridge between the village of Zagharid and Saqlawi-

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56 Tim Hume and Mohammed Tawfeeq, “Iraqi Troops Retake Key Town from ISIS in Falluja Offensive,” *CNN*, May 26, 2016. By the end of the first phase of the offensive, an estimated 50,000 civilians still remained inside the city. Myles B. Caggins III [@OIRSpox], “Est. up to 50K citizens remaining in Falluja, and #Iraqi Gov. has been clear that protecting these citizens priority. #defeatISIL,” Twitter post, May 27, 2016.

57 Martin, 2016b.

58 “Quwat Mukafahat Al-Irhab Al-'Iraqiya Tadkhul Ma'rakat al-Fallujah” [“Iraqi CTS Forces Enter the Fallujah Battle”], *Al Jazeera*, May 28, 2016.


Working together with the PMF, the ISF foiled an ISIS attack on a security cordon near Albu Shajal.  

The same day, General Abdul-Wahab Saadi announced that “several large contingents” of Iraqi forces had reached the edge of the city and were “ready to strike.” The ISF would “break into Fallujah in the next few hours to liberate it” from ISIS. On May 30, General Saadi declared that the operation, which had “so far focused on retaking villages and rural areas around Fallujah,” was...
shifting gears and preparing to enter the city center.\textsuperscript{64} At dawn, the CTS and the IA, along with Anbar Province police units, began an operation to breach the perimeter surrounding the city.\textsuperscript{65} The CTS was the first force to breach the perimeter.\textsuperscript{66} According to General Saadi, the ISF had “entered Fallujah under air cover from the international coalition, the Iraqi air force and army aviation, and supported by artillery and tanks.”\textsuperscript{67} Among the various components of the ISF, there was a “race to the center” of the city.\textsuperscript{68}

Supported by coalition air strikes, the CTS entered the city center from the south (see Figure 5.6).\textsuperscript{69} Some of the most intense fighting of the day took place in Nuaimiya.\textsuperscript{70} On its way to the city center, the CTS reached the edge of Shuhada, the southernmost neighborhood in Fallujah and a known hotbed of ISIS activity.\textsuperscript{71} The ISF seized the villages of Al-Buaziz, Albu Efan, and Al-Shiha, located to the north and west of the city.\textsuperscript{72} The ISF encountered heavy resistance from ISIS fighters, however, many of whom used civilians as human shields as the ISF advanced toward the city center.\textsuperscript{73} In the early


\textsuperscript{65} “Iraqi Forces Intensify Assault Against ISIL in Fallujah,” \textit{Al Jazeera}, May 31, 2016. The IA took on the majority of fighting in the first phase of the operation, but once the perimeter surrounding the city was breached, the CTS and the Federal Police took on a more prominent role in the offensive. U.S. Army field-grade officer, interview with authors, February 20, 2020.


\textsuperscript{67} “Iraqi Forces Intensify Assault . . . ,” 2016.

\textsuperscript{68} U.S. Army field-grade officer, interview with authors, February 20, 2020.


\textsuperscript{71} Bulos, 2016; Anagnostos and Martin, 2016.

\textsuperscript{72} McKirdy and Berlinger, 2016.

morning of May 31, approximately 100 ISIS fighters launched a counterattack in Nuaimiya. The CTS was able to repel the attack. The next day, the ISF and PMF together retook Albu Shajal, located to the west of Fallujah.

In the first days of June, the pace of progress slowed. On June 2, it was reported that the ISF were “unable to reach the city center.” The IA, according to General Saadi, was “still at the fringes of Fallujah.”

75 Patrick Martin, “Fallujah Control of Terrain Map: June 9, 2016,” Institute for the Study of War, June 9, 2016c.
77 Adel, 2016b.
ern axis, fierce fighting continued around Nuaimiya. In the area between Nuaimiya and Shuhada, the ISF clashed with ISIS fighters and killed 50. The following day, on June 3, the ISF finally advanced into Shuhada. Along the northern axis, the ISF and PMF, working together, fully recaptured Saqlawiyah on June 4 and raised the Iraqi flag over the main buildings in the town. The recapture of Saqlawiyah meant that the encirclement of Fallujah was complete. The ISF and PMF searched the town for IEDs, which ISIS had planted in the streets. As ISIS fighters tried to flee the town on rafts, they were killed by coalition air strikes.

Throughout the first several weeks of the offensive, the CTS had been focused on consolidating its positions along the southern axis of advance. On June 8, the CTS secured the first zone of the Shuhada district (see Figure 5.7). The same day, Prime Minister Abadi took the opportunity to visit government forces at the front line in Shuhada, breaking the Ramadan fast with them before departing that evening. The following day, the CTS stormed the second zone of Shuhada. By June 10, the CTS had come within 3 km of the city center.

Along the western and eastern axes, progress toward the city center remained slow but steady. Commentators noted that ISIS had had “more than two years to barricade itself into Fallujah,” and the combination of “exten-

__78__ Adel, 2016b. The same day, a coalition air strike in Falahat, located to the west of Fallujah, killed an additional 12 ISIS fighters. Abdelhak Mamoun, “12 ISIS Fighters Killed in Airstrike in Western Fallujah,” *Iraqi News*, June 2, 2016.


__81__ Martin, 2016c.

__82__ Ansari and Tawfeeq, 2016.


__84__ Joint Military Operations Command Republic of Iraq, Public Statement, Facebook, June 8, 2016c.

__85__ Martin, 2016c.

__86__ “Iraq Special Forces 3km from Fallujah Centre,” *Yahoo News*, June 9, 2016.
sive tunnel networks used by the militants and deadly roadside bombs [was] slowing [the] progress” of Iraqi forces. On June 11, ISIS fighters attacked an Iraqi military barracks to the east of Fallujah, killing 50 members of the ISF and PMF. The same day, however, the ISF reached Street 40, coming within 3 km of the city center, and working together with local Sunni tribal groups, recaptured the western district of Fallahat. The next day, the ISF


89 Emily Anagnostos, “Fallujah Control of Terrain Map: June 17, 2016,” Institute for the Study of War, June 17, 2016. Approximately 6,000 Sunni tribal fighters from Anbar
announced that they had succeeded in securing the first safe exit route for civilians who wished to leave Fallujah, located at Al-Salam Junction, to the southwest of the city. In the first day, according to the Norwegian Refugee Council, thousands of civilians used the exit route to flee the city.\textsuperscript{90} The ISF claimed they arrested 546 ISIS fighters who had disguised themselves as refugees and attempted to leave the city.\textsuperscript{91}

On June 14, the PMF—primarily representing the Badr Organization and, to a lesser extent, from the militias of Al-Marjiya Sistani, the Islamic Supreme Council of Iraq, and Muqtada Al-Sadr—entered the city and took up positions in its southern suburbs, including Shuhada.\textsuperscript{92} This represented a violation of an agreement that had been in place since the beginning of the offensive. The agreement dictated that the PMF would stay on the outskirts of the city rather than entering the city center. Earlier in the offensive, however, PMF leaders had indicated that there was internal discussion about the possibility of violating this agreement. On June 4, Hadi Al-Amiri, the leader of the Badr Organization, had suggested that his fighters were preparing to enter Fallujah.\textsuperscript{93} The following day, Abu Mahdi Al-Muhandis, the deputy chairman of the PMF, clarified that the Shi’a militias would enter the city only “if needed,” but stressed that the PMF “had ended the mission that was delegated to it—that being the liberation of Garma, Saqlawiyah, and Albu Shajal.”\textsuperscript{94} Meanwhile, Karim Al-Nouri, a spokesman for the PMF, Province participated in the offensive, representing three main groups: first, locally funded and organized Sunni tribal groups; second, a U.S.-equipped group; and third, small Sunni units that were affiliated with the PMF. Gulmohamad, 2016.


\textsuperscript{92} Anagnostos, 2016; Gulmohamad, 2016.

\textsuperscript{93} Amiri gave civilians ten days to leave Fallujah and suggested that the continued presence of civilians in the city was a major obstacle in the offensive. This implied that his fighters were ready to enter the city.

\textsuperscript{94} “Al-Muhandis Yu’lin Intiha’ Al-Marhala Al-Thaniya min Ma’rakat Tahrir Al-Fallujah” [“Al Muhandis Announces the End of the Second Phase of the Battle to Liberate Fallujah”], \textit{Al Manar}, June 5, 2016.
confirmed that the PMF would wait for Prime Minister Al-Abadi to authorize its entrance into the city. Even so, elements within the PMF continued to lobby the central government for permission to enter Fallujah. Ammar Al-Hakim, the leader of the Islamic Supreme Council of Iraq, argued that leaving the PMF on the outskirts of the city was “unrealistic and illogical.” Local Sunni officials insisted that Shi’a militias should not be allowed to participate in operations inside the city.95 By June 14, however, the PMF, having grown impatient with the pace of the offensive, entered the city without waiting for authorization from the central government.96

On June 14, the ISF cleared the remaining ISIS presence from the Fallujah Dam, located directly south of the city, and raised the Iraqi flag over the dam. The same day, along the eastern axis, the ISF seized control of the villages of Za’anatha, Ziban, and Atr. They regained control of the Abbas Jamil bridge, located south of the city center.97 The following day, the ISF seized the neighborhood of Khudra.98 A coalition spokesperson stated that there had been “slow but steady progress on different axes around the city.” The ISF, CTS, and Federal Police were “inside the southern edge of the city itself” and had “grab[bed] a foothold,” even though the fighting “remained intense.”99

By June 16, according to the Federal Police, 25 percent of the city had been retaken.100 Along the western axis, the ISF advanced from Falahat toward the city center and recaptured several areas that remained under ISIS control, including Halabsa and Basateen. They evacuated 900 families from the western suburbs of Fallujah and cleared three routes to allow tanks

95 Martin, 2016c.
96 The PMF had said that it would only enter the city if the ISF were unable to retake it. See Mark Moyer, “Iran Backs Iraqi Push to Expel ISIS from Fallujah,” Foreign Policy Initiative, June 6, 2016.
98 Anagnostos, 2016.
and armored vehicles to enter the remaining ISIS-held districts on the western side of the city.101

The next day, Prime Minister Al-Abadi prematurely declared victory. In an address on Iraqi state television, he announced that the ISF had retaken most of Fallujah: “We promised you the liberation of Fallujah and we retook it. Our security forces control the city except for small pockets that need to be cleared within the coming hours.” On Twitter, he declared that Fallujah had “returned to the embrace of the nation.”102 The ISF took control of two industrial districts, Nazal and Sinai.103 By the evening of June 17, 80 percent of the city had been retaken (see Figure 5.8). An Iraqi flag was raised over the local government headquarters in the city center.104 On the northern flank of the city, however, ISIS fighters halted the further advance of the ISF into the city center.105

On the afternoon of June 18, the CTS recaptured the main hospital in Fallujah, which ISIS had used as a military base.106 Elsewhere in the city, the fighting continued, and the districts of Golan, Dhubat, Shurta, Jughafi,

102 Inherent Resolve [CJTFOIR], “#ISIS defenses collapse as Iraqi forces retake Fallujah,” Twitter post, June 20, 2016; “Iraq: PM Abadi Declares Victory over ISIL in Fallujah,” Al Jazeera, June 18, 2016. The coalition did not agree that the city had been liberated. The CJTF questioned the decision to announce the liberation of Fallujah at this early stage, when large parts of city were still under ISIS control. This “caused a lot of annoyance” among the Iraqis. One of the lessons learned in Fallujah was the importance of preventing “information fratricide,” which happened when the coalition and the Iraqis were using slightly different measures of success and, as a result, two different messages were released to the media. U.S. Army field-grade officer, interview with authors, February 20, 2020.
103 Anagnostos, 2016.
Askari, and Muaelmin still remained under ISIS control. On June 19, the ISF clashed with ISIS fighters in Dhubat, a district to the northeast of the city center. Fifty ISIS fighters were killed in coalition air strikes in Dhubat; an additional 15 ISIS fighters were killed in clashes with the ISF on the ground. On the eastern flank of the city, the IA advanced into Askari, which it retook the next day. Also on June 21, the CTS retook Shurta, located


adjacent to Askari. The following day, the ISF took control of Jughafi. General Saadi announced that the “northern and central parts of Fallujah [had] almost been cleared of Daesh.” A few remaining ISIS fighters were concentrated in the districts of Golan and Muaelmin. Just 10 percent of the city remained under ISIS control.

On June 25, after several more days of fighting, the ISF recaptured both Golan, where they raised the Iraqi flag over a medical center, and Muaelmin. The following day, General Saadi declared that Operation Breaking Terrorism was “done and the city [was] fully liberated.” Prime Minister Al-Abadi similarly announced that Fallujah had been liberated. “As we promised you,” he proclaimed, “today [the Iraqi flag] is flying high in Fallujah and, God willing, it will soon fly in Mosul.”

Having liberated Fallujah, the ISF turned their attention to eliminating any remaining ISIS fighters from the outskirts of the city. On June 27, the ISF, supported by coalition air strikes, advanced into the western suburbs of Fallujah to root out those ISIS fighters who were holed up in the countryside and prevent them from launching a counterattack on the city. Secretary of Defense Carter made a statement in which he congratulated Prime Minister Al-Abadi and noted that the United States and its partners were “proud to


113 “Fallujah in Ruins After Iraqi Forces Retake ‘90%’ of the City from Isil,” The Telegraph, June 22, 2016.


116 Inherent Resolve [@CJTFOIR], 2016.

117 Thaier al-Sudani and Ahmed Rasheed, “Iraqi Forces Assess the Damage to Fallujah as They Secure the City,” Huffington Post, June 27, 2016.
have supported the [ISF] . . . in this important operation.”118 By the following day, the ISF had fully liberated the western suburbs, including the districts of Halabsa, Albu Elwan, and Albu Herat.119

On June 29, amid a dust storm, a convoy of ISIS fighters and their families retreated from the villages surrounding Fallujah.120 Coalition and Iraqi aircraft conducted a series of strikes on the convoy as it fled toward the Syrian border, reportedly killing at least 250 ISIS fighters and destroying hundreds of vehicles.121

In the wake of its defeat in Fallujah, ISIS issued a recounting of events that supported its official narrative of continued resistance. Specifically, ISIS attempted to message its defeat in Fallujah in the context of 15 years of resistance against Western forces and local “apostates.” Harkening back to the battles of Fallujah I and II (spring and fall 2004), ISIS predicted that it would one day regain control of Fallujah. Roughly a year after the ISF reclaimed the city, ISIS released a video called “The War Recorded,” which purported to show its seizure of the city in 2014 and its repelling of the initial ISF counterattack in spring 2016. The video montage focuses on the group’s use of small arms and technical vehicles to repel the 2016 ISF counterattack on the city. After showing the capture of ISF armored vehicles, including a bulldozer, an ISIS leader warns, “As happens every time, the apostates imagine


121 Salim and Gibbons-Neff, 2016. Coalition aircraft reportedly avoided carrying out strikes on the part of the convoy that was thought to contain civilians. See also Phil Stewart, “U.S. Strike Kills 250 Islamic State Fighters Near Fallujah: Officials,” Huffington Post, June 29, 2016.
that they have waged the battle to improve their interests and that Fallujah has become secure, until the mujahideen wake them from their dreams.”

## U.S. Ground Force Contributions in Fallujah

### Train and Equip

The T&E mission of CJTF-OIR sought to generate sufficient combat power for Iraqi forces to retake Fallujah while minimizing the extent to which Iraqi forces would need a lengthy refit prior to an offensive to retake Mosul. Following the liberation of Ramadi, CJTF-OIR faced the challenge of rebuilding the combat capabilities of the IA and Sunni tribal militias in Anbar Province in preparation for the Fallujah offensive. The T&E mission sought to enable the IA and Sunni tribal groups to serve as the main combat force in the Fallujah offensive, thereby minimizing the risk to U.S. ground forces and mitigating the risk that the Shi’a PMF would inflame local sensitivities.

In the months leading up to the Fallujah offensive and during the offensive itself, personnel from the 1st Battalion, 7th Marine Regiment, TFTQ provided support to the T&E mission. The TF trained Iraqi forces on communication and radio operations, artillery, EOD, breaching, and medical techniques. TFTQ, which was based at Camp Manion, supported the equipping process for ISF units. The TF worked with ISF units to track the procurement process and facilitated the distribution of equipment to the Federal Police and Sunni tribal mobilization forces. Although TFTQ provided training concurrent to the Fallujah operation, many of the Iraqi units involved in the Fallujah opera-

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125 Ricardo Hurtado, “Iraqi, Coalition Forces Turning Tide in Fight to Defeat ISIL,” U.S. Marine Corps, April 4, 2016b. In the months before the offensive began, TFTQ trained nearly 60 Iraqi soldiers on communication and radio operations, more than 40 Iraqi soldiers on artillery, and approximately 40 Iraqi soldiers on medical procedures, as well as eight EOD teams.

tion had previously received training at the centers in Taji and Besmayah. The primary trainers at those centers were coalition partners (e.g., Spain, Italy, New Zealand, Australia), not U.S. forces.127

Advise and Assist
In May 2016, just as the Fallujah offensive was about to begin, TF Strike, 2nd BCT, 101st Airborne DIV (Air Assault) arrived in Iraq and assumed

the responsibility of advising and assisting the ISF.\textsuperscript{128} It was positioned “where enemy contact [was] unlikely” and tasked with “providing advice to partner forces on how best to fight,” although it was not to engage in direct combat.\textsuperscript{129} For the duration of the offensive, TF Strike was based at the BOC, which meant that it was detached from Iraqi unit commanders (who were located forward at tactical command posts).\textsuperscript{130} TF Strike advisers viewed their role as “advocates” for the ISF, attempting to deliver more support to their Iraqi counterparts. At this time, advisers’ ability to move by ground beyond the forward line of own troops (FLOT) was limited, and they had no ability to move forward with Iraqi combat units, all of which restricted their impact on the operation.\textsuperscript{131} Their communications with forward deployed Iraqi units were limited to phone calls and text messages or key leader engagements. In rare instances, advisers from TF Strike were able to move to an Iraqi forward headquarters via helicopter for a short period—not exceeding 48 hours. This technique was known as “flying to advise.” The Iraqis chose to maintain a portion of their headquarters and staff with TF Strike at the BOC. This enabled the ISF to view full-motion video feeds from coalition manned and unmanned aircraft.\textsuperscript{132}

Although Iraqi commanders were appreciative of coalition support for the Fallujah operation, they were frank in their assessment that U.S. advis-


\textsuperscript{129} Warren, 2016b. The day the Fallujah offensive began, Pentagon officials stated that the United States was unlikely to deploy ground-level U.S. combat advisers to support the offensive. Andrew Tilghman, “No U.S. Combat Advisers for Fallujah Invasion,” Military Times, May 23, 2016.

\textsuperscript{130} Daniel Johnson, “Blue Spaders Advise, Assist at Baghdad Operations Command,” U.S. Army, August 20, 2016b. In their role at the BOC, they “enable[d] Iraqi security forces to defeat [ISIS] through advising, assisting, training, equipping and strikes.”

\textsuperscript{131} U.S. Army field-grade officer, interview with authors, June 17, 2020.

\textsuperscript{132} U.S. Army field-grade officer, interview with authors, February 20, 2020.
ers had limited impact on their operational planning. Asserting Iraqi control over planning for the operation, General Saadi noted that “neither American nor Iranian advisers had any role to play in the planning of the operation to liberate Fallujah.”133 Saadi’s appraisal overstated the dearth of coalition advising, which did occur at the division headquarters level, but it speaks to the level of sovereign sensitivity in Baghdad during the operation. Even as U.S. ground forces were increasing the scope of their advising and enabling, the Iraqi military command took pains to stress the limited role of U.S. forces. In March 2016, for example, as the ISF worked to prepare for the offensive to liberate Fallujah, the Iraqi Joint Military Operations Command stressed, “The presence of international coalition forces is confined to training, equipping, and providing air support to the Iraqi forces combating ISIS. There is no truth to the rumors that speak to the deployment of American combat forces in some sites and military camps in Baghdad and elsewhere.”134

Although Baghdad’s desire to limit coalition involvement in operations was understandable, the drawbacks of this limited approach became clear during the Fallujah offensive. The involvement of multiple components of the ISF in the offensive made it challenging to coordinate efforts among different advisory elements of the coalition.135 This coordination challenge was magnified by the paucity of direct communication between A&A teams and forward deployed ISF units.136 The ISF itself demonstrated a limited ability to get multiple components of the ISF into the fight simultaneously and deconflict their actions. As a result, the Fallujah offensive devolved into a

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135 The advisers at the BOC, which controlled the northern axis of advance into the city center, were from the CJFLCC, while the advisers for the CTS, which approached the city along the southern axis, came from the CJSOTF. The Federal Police, which advanced toward the city along the eastern axis, did not have any coalition advisers.

136 U.S. Army field-grade officer, interview with authors, June 17, 2020.
race between the IA, the CTS, the Federal Police, and various militia groups to the city center.\textsuperscript{137}

**Fires**

The coalition provided fire support during the Fallujah offensive. Although the ISF had some limited fires capability, the majority of surface fires into Fallujah were from the coalition. U.S. Army soldiers with Battery C, 4th Battalion, 1st Field Artillery Regiment, 1st Armored DIV, which was part of TFTQ, provided surface fires using M109A6 Paladin howitzers, which had been issued once the battery arrived in Iraq, from TQ.\textsuperscript{138} The battery typically conducted small missions, consisting of roughly two Excalibur rounds. The Excalibur round was the round of choice because the majority of targets were individuals or specific rooms within buildings. At night, the battery would fire illumination rounds to support ground forces.\textsuperscript{139} One challenge was that the Paladins needed constant maintenance. Typically, there would be one Paladin available while the other was undergoing maintenance in the field. Occasionally, however, both Paladins would be unavailable because of an unexpected malfunction.\textsuperscript{140}

The relatively close proximity of an artillery battery at TQ was an advantage during the Fallujah offensive.\textsuperscript{141} Even so, the responsiveness of coalition fires often frustrated the Iraqis. Fires were slowed for three main reasons. First, it was challenging at times to identify the targets that were relayed from tactical ISF units, especially in an urban environment. It was difficult


\textsuperscript{139} U.S. Army field-grade officer, interview with authors, July 29, 2020.

\textsuperscript{140} U.S. Army field-grade officer, interview with authors, July 29, 2020. Maintenance had to take place in the field because the Paladins were in constant use.

\textsuperscript{141} U.S. Army field-grade officer, interview with authors, February 20, 2020. The decision to use surface fires or air strikes depended on the target and on the preferences of the TQ commander, who “was an artillery guy, so he favored using artillery rounds.” U.S. Army field-grade officer, interview with authors, July 29, 2020.
to understand the situation on the front lines from the vantage point of the BOC. Second, it was challenging to confirm the frontline trace of forward Iraqi units to prevent fratricide. Finally, the release authority for munitions resided with the strike cell. This meant that during the Fallujah offensive, requests for fires proceeded from the forward tactical Iraqi unit to the unit’s tactical command post, then to the main command post in the BOC, to the strike cell (which was colocated with the BOC), and finally to the CJFLCC strike cell.¹⁴²

**ISR and Targeting**

Because the coalition was already preparing to retake Mosul, limited manned and unmanned ISR assets were devoted to the Fallujah offensive. The strike cell at the BOC had to compete for ISR assets with the strike cell in Erbil. The allocation of resources between Baghdad and Erbil, including

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¹⁴² U.S. Army field-grade officer, interview with authors, June 17, 2020. Fires for the CTS, compared with other components of the ISF, were reportedly much more responsive. The CTS had U.S.-trained joint terminal attack controller (JTAC) equivalents that the strike cell trusted to make direct calls for fires, which made the process more efficient.
ISR assets, was set as part of the CJFLCC targeting process. According to deployed personnel, it was “nearly impossible” to shift these resources once they were allocated.\(^\text{143}\) In Fallujah, the practical effect of this was that there were periods of time during the offensive when coalition ISR provided limited or no coverage over the city. Instead, the BOC relied on TF Strike ISR to observe the frontline trace of friendly units.\(^\text{144}\)

During the Fallujah offensive, targeting was run out of the BOC. All targets had to be approved by U.S. commanders from the strike cell in Baghdad. All target packets went through the standard targeting process, including an assessment of the collateral damage estimate. In cases in which there were legal concerns regarding the collateral damage estimate, it would take longer to prosecute a target. Because the operation preceded the issuance of Tactical Directive #1,\(^\text{145}\) targets could not be approved at a lower echelon than a brigadier general. This limited the responsiveness of the coalition.\(^\text{146}\)

**Medical Support**

As part of the A&A mission, CJTF-OIR provided both direct medical support and medical training to the ISF. Because of the proximity of TFTQ to Fallujah, members of the TF provided the majority of medical support to Iraqi forces who were seriously wounded during the Fallujah offensive.\(^\text{147}\) The TFTQ medical team during the Fallujah offensive was composed of U.S. Navy corpsmen, marines from II MEF and SPMAGTF-CR-CC, and U.S. soldiers from the 948th Forward Surgical Team.\(^\text{148}\) When wounded Iraqi forces arrived at Camp Manion, the process for assessing their injuries and providing necessary medical support was similar to that during the

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\(^{143}\) U.S. Army field-grade officer, interview with authors, June 17, 2020.

\(^{144}\) U.S. Army field-grade officer, interview with authors, June 17, 2020.

\(^{145}\) Although the full content of the directive is classified, its intent has been discussed publicly by CJTF commanders; our information is derived from those discussions.

\(^{146}\) U.S. Army field-grade officer, interview with authors, February 20, 2020.

\(^{147}\) Hurtado, 2015.

Ramadi offensive. All the functional contributions from U.S. ground forces are summarized in Table 5.2.

### Conclusion for Fallujah Case

Although Operation Breaking Terrorism ultimately succeeded in recapturing Fallujah, it revealed some of the weaknesses of the ISF and the A&A paradigm. First, the offensive underscored for the coalition the importance of ensuring that U.S. forces had sufficient contact with forward deployed Iraqi forces. Although having U.S. A&A teams located at the BOC reduced the risk to U.S. forces, it also increased the difficulty they experienced in influencing what was happening on the ground during the offensive. Without a sustained forward presence, U.S. A&A teams did not have full access to available ISF information about conditions and developments on the ground. Their opportunities to influence ISF planning and decisionmaking were also more limited.\(^\text{149}\)

### TABLE 5.2

**Summary of Contributions of U.S. Ground Forces, Fallujah**

<table>
<thead>
<tr>
<th>Functional Contribution</th>
<th>Description</th>
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<td>T&amp;E</td>
<td>U.S. ground forces trained Iraqi forces in communication and radio operations, artillery, EOD, breaching, and medical techniques.</td>
</tr>
<tr>
<td>A&amp;A</td>
<td>U.S. ground forces served as military advisers, providing operational support to Iraqi forces during the operation to liberate Fallujah.</td>
</tr>
<tr>
<td>Fires</td>
<td>U.S. ground forces provided the majority of surface fires into Fallujah.</td>
</tr>
<tr>
<td>ISR and targeting</td>
<td>U.S. ground forces provided limited manned and unmanned ISR assets during the Fallujah offensive. U.S. ground forces with the Baghdad strike cell approved all targets.</td>
</tr>
<tr>
<td>Medical support</td>
<td>U.S. ground forces provided direct medical support to seriously wounded Iraqi soldiers and provided medical training to Iraqi forces.</td>
</tr>
</tbody>
</table>

\(^{149}\) Wylie, Childers, and Sylvia, 2018. It became clear from the Fallujah offensive that a very small element within the ISF was carrying the fight. U.S. Army field-grade officer, interview with authors, February 20, 2020.
Second, the Fallujah offensive revealed that the ISF had limited ability to deconflict the actions of the IA, the CTS, the Federal Police, and the various militias that aided in the operation. The operation devolved into a “race to the center” of the city, giving U.S. forces little confidence that the ISF were up to the task of retaking Mosul.

Third, U.S. A&A teams found that their priorities often diverged from those of the ISF. During the offensive, for example, the city was broken into 100 segments. As each segment was cleared, it would be colored green on a shared map. This enabled U.S. forces to communicate the percentage of the city that had been liberated. For Iraqi forces, however, the most important segment was the segment that contained the main government building. The other segments would “get done when they [were] ready.” This meant that the metric of percentage of segments cleared was somewhat irrelevant from the perspective of the Iraqi forces. Reconciling these differing priorities represented a challenge for U.S. A&A teams.150

Another way in which the priorities and perspectives of the U.S. and Iraqi players diverged revolved around the participation of the PMF in the Fallujah offensive. In the lead-up to the offensive, the coalition was reluctant to support the offensive if the PMF participated. Initially, the coalition threatened to pull its support if the BOC worked with any of the militias under the PMF umbrella. From the perspective of the BOC commander, General Shamari, the ISF would need to work with the PMF to succeed in liberating Fallujah. General Shamari proposed that the ISF would work only with the so-called good militias—that is, those militias that were not backed by Iran.151 In addition, he promised that the ISF would lead the operation inside Fallujah while the PMF would only participate in the encirclement of the city.152 The coalition agreed to this proposal. However, the PMF did end up entering the city in the second phase of the offensive.153

Overall, U.S. ground force contributions in the Fallujah offensive were comparatively less robust than U.S. ground force contributions in other

150 U.S. Army field-grade officer, interview with authors, June 17, 2020.
151 U.S. Army field-grade officer, interview with authors, June 17, 2020.
152 Gulmohamad, 2016.
153 U.S. Army field-grade officer, interview with authors, June 17, 2020.
operations. This stemmed from several features of the offensive. First, the Fallujah offensive occurred relatively early in the campaign. As a result, some U.S. capabilities had not yet been introduced. Second, the Fallujah offensive occurred during a period in which U.S. ground forces were focused on preparations for the eventual liberation of Mosul. This meant that there were fewer resources available to be dedicated to the Fallujah offensive. Although U.S. ground forces had a more robust influence on other operations, they nevertheless played an important role in training, equipping, advising, and assisting Iraqi forces in the months leading up to and during the Fallujah offensive.
CHAPTER SIX

Setting the Conditions for Mosul, April 2016–October 2016

In this chapter, we focus on a series of military operations between April and October 2016 in the territory abutting Mosul to the city’s south and east. This portion of the campaign was referred to by the coalition as “setting the conditions” for the eventual liberation of Mosul that followed.¹ The local ground forces involved in this fight included conventional Iraqi military forces (the 9th Armored DIV and 15th Army DIV), Iraqi SF (the CTS), provincial police units, tribal auxiliaries, and Kurdish Peshmerga forces (e.g., regional guard brigades, Zeravani).

In their efforts, the ISF were advised, assisted, and enabled by TF Strike, which was composed of roughly half of the 2nd BCT from the 101st Airborne DIV. The authorized end strength for military personnel in Iraq at the time was just over 4,000 troops.² TF Strike deployed roughly 1,700 personnel for the advise, assist, and enable mission, meaning that this group made up just under half of total U.S. forces in country and the overwhelming share of U.S. ground forces.³ In addition to TF Strike, U.S. Army aviation was provided by the 1st Attack Reconnaissance Battalion, 10th Aviation Regiment. The U.S. Marine Corps participated in these operations via their SPMAGTF deployments. Finally, a maneuver battalion headquarters

assigned to Operation Spartan Shield in Kuwait was brought into Iraq to provide support.

The main objective of these operations was to secure the ground lines of communication (GLOCs), key terrain, and basing infrastructure that would allow for the staging of forces to liberate Mosul from Islamic State control. To do so, Iraqi ground forces needed to liberate ISIS territory on both the east and west sides of the Tigris River. As described by the CJTF-OIR spokesman, “The territory there is essentially for ISIL’s defense in depth of Mosul. . . . The enemy knows that once they lose this territory, the Iraqi Security Forces will be able to posture for the eventual liberation of Mosul.”

To achieve this objective, the coalition would need to enable the ISF to execute a “leap frog” advance in which ISF units hopped from one key terrain feature to the next.

There is no large population center in this area of Iraq akin to the three other liberation operations profiled in this report (Ramadi, Fallujah, and Mosul). Rather, there are a series of villages and smaller towns that ISIS controlled, denying Iraqi forces an area from which to launch an offensive against the group’s Iraqi capital. Among the key basing infrastructure that needed to be seized in preparation for the Mosul counterattack was Qayyarah Airfield West, an air base located on the western side of the Tigris River roughly 60 km south of Mosul. (See Table 6.1 for a summary of key milestones in this operation.) Describing the base’s strategic importance, the DoD Office of Inspector General noted, “A key target is the town of Qayyarah, about 32 km west of Makhmour, which, when seized, will provide an airfield and close an ISIL supply route along the Tigris River.” That base is adjacent to one of the few river crossings in the area.

A second key piece of infrastructure that needed to be expanded was the military camp at Makhmur, an area southeast of Mosul that was held by

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6 This base is sometimes referred to by U.S. service members as Q-West or Key West.

7 DoD, Inspector General, 2016a.
the Kurdish Peshmerga since late summer 2014.8 Makhmur became the site of an important coalition fire base and later the Ninewa Operations Command in February 2016, where Iraqis and coalition advisers planned the eventual liberation of Mosul. Taking Qayyarah Airfield West and building up Makhmur allowed the ISF to isolate Mosul from the south and east, from where they could mass and resupply the forces required for the nine months of urban operations that followed. In the words of one interviewee for this research project, when Iraqis completed this staging of forces for Mosul, “it wasn’t checkmate, but it was check.”9

### TABLE 6.1
**Key Milestones in Setting the Conditions for Mosul**

<table>
<thead>
<tr>
<th>Milestone</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Iraqi Ninewa Operations Command moves to Makhmur.</td>
<td>February 2016</td>
</tr>
<tr>
<td>Operation Valley Wolf begins.</td>
<td>April 2016</td>
</tr>
<tr>
<td>The CTS joins the ISF pushing up the west bank of the Tigris.</td>
<td>June 2016</td>
</tr>
<tr>
<td>Nasr Village is liberated by the ISF, an area where ISIS put up some of its stiffest resistance on the east bank of the Tigris.</td>
<td>June 13, 2016</td>
</tr>
<tr>
<td>The ISF take control of Qayyarah Airfield West.</td>
<td>July 9, 2016</td>
</tr>
<tr>
<td>The ISF execute a contested river crossing at Qayyarah, linking troops that until then had been operating separately on each bank of the river.</td>
<td>July 15, 2016</td>
</tr>
<tr>
<td>The Peshmerga crosses the Zab River and liberates 11 villages.</td>
<td>August 2016</td>
</tr>
<tr>
<td>The ISF retake Bartallah and Qaraqosh.</td>
<td>October 22, 2016</td>
</tr>
</tbody>
</table>

### Staging Iraqi Forces on the West Side of the Tigris

By spring 2016, Iraqi forces aided by the coalition had succeeded in pushing roughly halfway between Baghdad and Mosul (see Figure 6.1). The most direct

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9 U.S. Army field-grade officer, interview with authors, June 9, 2020.
route between those two cities—Iraq’s first and second most populous—runs along the Tigris River. A challenge in liberating this expanse of territory is that ISIS had focused on defending the main GLOC—Highway 1—that runs along the west side of the Tigris River.\(^\text{10}\) Up until this point in the campaign, Iraqi forces had consciously avoided fighting “through the throat of ISIS

\(^{10}\) Readers familiar with Operation Iraqi Freedom will recognize this as Main Supply Route (MSR) Tampa.
up Highway 1,”\(^{11}\) preferring to seek out protected movement on alternative GLOCs that skirted this ISIS stronghold. Iraqi forces would eventually need to take back Sharqat,\(^ {12}\) Baaj,\(^ {13}\) and Qayyarah in order to control the southern axis into Mosul. In April 2016, the ISF embarked on Operation Valley Wolf with the objective of liberating this area from Islamic State control.\(^ {14}\)

Although the operation to liberate this territory was announced in April 2016, progress was slowed until the CTS, the elite force often relied on for government offensives, wound down its involvement in the liberation of Fallujah. Once the Fallujah operation neared its conclusion in June 2016, the CTS joined the conventional and auxiliary forces that Iraq’s military command had allocated to the operation.\(^ {15}\) In June 2016, the Iraqi Joint Military Command noted that it had assembled “the Counterterrorism Service, 9th Armored DIV, Units from the Salah Al-Din Operations Command, units from the Ninawa Operations Command, tribal mobilization, and military engineering battalions . . . to advance towards north Salah Al-Din and south Mosul.”\(^ {16}\)

Those forces embarked from a chemical plant just outside Bayji,\(^ {17}\) and, over the course of June, liberated many of the small towns and villages between their starting point and Qayyarah Airfield West, the most important objective.\(^ {18}\) Stressing the importance of the road network that would be crucial for staging and resupplying forces, the Iraqi Ministry of Defense noted that “the operation led to the securing of the road linking Bayji and

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\(^{11}\) U.S. Army general officer, interview with authors, March 27, 2020.

\(^{12}\) Sometimes transliterated by the U.S. military as Shargot.

\(^{13}\) The full name of the town is Tulul Al-Baaj (or the Baaj Hills), but it is usually referred to by the U.S. military as Baaj.


\(^{15}\) Muhammed Al-Ghazi, “Mapping the Road to the Liberation of Mosul,” Al-Monitor, July 17, 2016.

\(^{16}\) “Ba’d Dukhul Al-Fallujah . . . Hadhi hiya al-Quwat Al-Mutawajah li Shammal Salah Al-Din wa Janub Al Mawsil” [“After Entering Fallujah . . . These Are the Forces Headed Toward North Salah Al-Din and South Mosul”], CNN Arabic, June 18, 2016.

\(^{17}\) Al-Ghazi, 2016.

\(^{18}\) Al-Ghazi, 2016.
Sharqat leading to Ninewa Province and that is considered the main supply route for supporting military units in the coming liberation operations.”¹⁹

In this push up the Tigris, Iraqi military forces were joined by the 12th battalion of the Salah Al-Din Provincial Emergency Police.²⁰

Unlike urban fights in which a core of Islamic State militants would typically defend the city until death, ISIS largely retreated from this advance. This is likely because of ISIS’s desire to avoid firefights in open spaces in which it faced equipment overmatch and force ratios were heavily stacked against it. Noting the strong correlation of forces in the ISF’s favor, the Commander of TF Strike recalled that, in the first clearance operation in this stretch of the Tigris, the ISF employed an entire brigade against what was estimated to be 30 to 40 ISIS militants.²¹ Not surprisingly, ISIS typically retreated when confronted with such overwhelming force.

When ISIS chose to engage the ISF, the CJTF-OIR spokesman described the militants as “relying on defensive belts of earthworks, fighting positions, and IEDs to slow the ISF, and vehicle-borne IEDs to attack them.”²² Iraqi government sources noted the extent to which ISIS militants fled an area that was believed to be a militant stronghold at the outset of the operation. The former Governor of Ninewa Province, Athil Al-Nujaifi, estimated that of the 1,500 ISIS fighters that previously controlled what ISIS described as Wilayat Al-Dijlah (Tigris Province), 1,000 fled the ISF advance.²³ For its part, ISIS put out a series of videos depicting a more aggressive defense of the territory. In the second part of a series entitled Epic Battles of Constancy, ISIS showed what it claimed to be a successful defense of the Makhul mountains using small arms fire, rocket-propelled grenades (RPGs), and


²² Garver, 2016c.

²³ Athil Al-Nujaifi, interview with Al-Aan Television, October 11, 2016.
heavier machine guns to drive off better-equipped ISF units shown in tactical vehicles.\textsuperscript{24}

ISIS propaganda aside, it appears that the most challenging resistance that ISIS put up to the ISF’s advance was its use of VBIEDs. As observed by an interviewee who served as an adviser during the subsequent Mosul fight, ISIS effectively employed VBIEDs as its precision fires.\textsuperscript{25} We do not have an exact count for how many VBIEDs the ISF encountered in this specific clearance operation. However, U.S. forces that advised and assisted at this time helped destroy over 300 VBIEDs during the course of their deployment, and this operation was one of their principal lines of effort.\textsuperscript{26} The U.S. Army Brigade Commander overseeing the operation described VBIEDs as ISIS’s “primary weapon system.”\textsuperscript{27} Iraqi military accounts of these clearances typically cite VBIED attacks as the enemy’s main resistance. In just one small village clearance operation south of Mosul, Iraqi forces encountered five VBIEDs.\textsuperscript{28} The ISF employed armored bulldozers to aid with route clearance because of the improvised explosives ISIS planted ahead of its retreat.\textsuperscript{29}

When the Iraqi ground forces had reached Qayyarah Airfield West, they succeeded in clearing the stretch of highway previously viewed as an ISIS stronghold. When faced with the advance of large ISF formations, ISIS executed a tactical retreat. ISIS did not put up stiff resistance in the villages south of Qayyarah or attempt to hold the air base.\textsuperscript{30} Rather, ISIS preserved

\textsuperscript{24} Wilayat Dijlah, “Malhamat al-Thubat #2” [“The Epic Battles of Constancy #2"], Jihadology, June 1, 2016.

\textsuperscript{25} U.S. Army field-grade officer, interview with authors, June 5, 2020.

\textsuperscript{26} Wylie, Childers, and Sylvia, 2018.

\textsuperscript{27} Sylvia, 2017.

\textsuperscript{28} Al-Mawsiliya Television News, “Kamira Al-Mawsiliya Tuwathiq Ma’arik Tahrir Qura Imam Gharbi, wa Al-Marir, wa Al-Bazajla, wa Al-Tal’a fi Al-Qayyarah” [“Al-Mawsiliya Documents the Battles to Liberate the Villages of Imam Gharbi, Al-Marir, Bazajla, and Al-Tal’a in Qayyarah.”] video, August 13, 2016.

\textsuperscript{29} Al-Mawsiliya Television News, 2016.

\textsuperscript{30} For a description of the light resistance that the ISF encountered in Shirqat, see Tamer El-Ghobashy and Ghassan Adnan, “Islamic State Driven from Strategic Town of Shirqat, Iraqi Military Says; Victory in What Is Considered Gateway Town Sets Stage for Major Coalition Assault on IS in Mosul,” Wall Street Journal, September 22, 2016.
its forces for the subsequent fight in urban Mosul that would be on relatively more favorable terms. That said, ISIS resistance might have been lighter than expected because the ISF left an area of ISIS control in place—the Hawijah pocket—that would not be liberated until the fall of Mosul. Moreover, ISIS greatly complicated stabilization of the area by leaving explosive remnants of war that prevented the quick return of the displaced and by setting fire to oil wells (such as those in Qayyarah),\(^\text{31}\) which created health hazards and destroyed local employment opportunities.\(^\text{32}\)

The level of displacement of Iraqi civilian populations during the operation tempers what would otherwise have been an unqualified military success in terms of the scope of territory liberated by the ISF without the ISF incurring significant casualties. Approximately 100,000 Iraqi civilians were believed to have fled the small towns and villages on the western and eastern sides of the Tigris during the ISF’s advance.\(^\text{33}\) Because IDPs fled these areas for various reasons, such as fear of being caught in the crossfire between ISF and ISIS forces, fear of IEDs and other explosive remnants of war, the need for humanitarian assistance after having been trapped in their villages by ISIS, and predatory behavior by the ISF and Shi’a militias that perceived local populations to be ISIS sympathizers,\(^\text{34}\) it is not possible for us to parse how much of the displacement was driven by ISIS tactics, ISF tactics, or a deterioration of living conditions (access to water, employment) that accompanied the conflict. Whatever the impetus for their flight, a significant proportion of the local population was displaced during the operation. (See Figure 6.2 for a map of IDP flows.)


\(^{32}\) Agriculture is Qayyarah’s largest employer, but the oil refinery is also an important employer. “Al-Qayyara . . . Jisr Istratiji ila Ma’arakat Al-Mawsil” [“Al-Qayyara: A Strategic Bridge to the Mosul Battle”], Al-Jazeera, August 28, 2016.


\(^{34}\) United Nations High Commissioner for Refugees, UNHCR Position on Returns to Iraq, November 14, 2016.
With that important caveat, the ISF’s securing of the western side of the Tigris was a significant victory in the fight against ISIS. Their advance up the Tigris to Qayyarah provided the ISF with control of the natural supply route for staging the urban fight against Mosul. Conversely, this advance denied ISIS a key supply route that militants were using.\footnote{DoD, Inspector General, 2016a.} The strategic significance of taking Qayyarah prompted Prime Minister Al-Abadi to draw attention to the milestone in the campaign, remarking, “During the past days, there was planning, fighting, and [then] liberation. We advanced 100 km, and this

\begin{figure}
\centering
\includegraphics[width=\textwidth]{flows_of_idps_during_the_operation_to_set_the_conditions_for_mosul_liberation}
\caption{Flows of IDPs During the Operation to Set the Conditions for Mosul Liberation}
\label{fig:flows_of_idps}
\end{figure}

\begin{quote}
\textbf{FIGURE 6.2}
\newline
\textbf{Flows of IDPs During the Operation to Set the Conditions for Mosul Liberation}
\end{quote}
is important revenge on the terrorist gangs that we will soon destroy . . . ”

After Qayyarah became a launching point for the urban Mosul fight, U.S. Secretary of Defense Carter visited the base, noting that seizing “this very airfield was part of our plan of more than a year ago . . . .This is a critical launching pad for the battle of Mosul.”

However, Iraqi forces would now need to surmount a new challenge—linking the Iraqi forces that cleared the west side of the river with Iraqi federal and Peshmerga forces that were operating concurrently on the eastern side of the river. Creating the conditions for liberating Mosul required joining up these forces (that is, units operating on the west and east sides of the Tigris), including via a contested river crossing. Here, we describe the ground maneuver on the east side of the Tigris.

**Staging Iraqi Forces on the East Side of the Tigris**

Concurrent to the operations on the west side of the river that liberated towns and villages along Highway 1, the ISF—including Kurdish Peshmerga forces—closed in on Mosul from the east. Their starting point was a military camp in Makhmur, a strategically located town roughly 100 km southeast of Mosul. That Iraqi forces started with the Mahkmur camp under their control is an important difference from the Tigris west bank operations summarized in the previous section. On the west side of the river, the ISF were pushing up Highway 1 to seize the key basing infrastructure, Qayyarah Airfield West. On the east side of the river, Iraqi forces started with the key infrastructure—the camp at Makhmur—but needed to expand its facilities and negotiate Arab-Kurd political sensitivities over its use before launching ground maneuvers toward Mosul. Important objectives of this advance on the eastern side of the Tigris were to cross the river at Qayarrah, which would complete the surrounding of Mosul from its southern axis, and to

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secure the high ground at Bashiqa east of Mosul, from where the ISF and coalition could bring indirect fire to bear on East Mosul city.

Readers will recall that the main forces that advanced on the west side of the river were the 9th Armored DIV, the CTS, provincial police, and tribal auxiliaries. On the east side of the river, the primary forces allocated to the fights were the 15th Iraqi Infantry DIV and Kurdish Peshmerga. As Iraqi federal forces entered Makhmur to operate in parallel to the Kurdish Peshmerga as part of Operation Evergreen, one of the coalition’s main interlocutors at the Ministry of Peshmerga Affairs, Jabar Yawar, estimated that the combined forces at Makhmur had reached 5,000, including four tranches of reinforcements from the Iraqi 15th Infantry DIV.\(^{38}\) This figure is roughly consistent with the one cited by a coalition spokesman noting that U.S. advisers and artillery batteries at Makhmur were supporting “several thousand Iraqi soldiers.”\(^{39}\) Although the coalition was encouraging the development of Kurdish regional guard brigades that transcended party affiliation, many of the Kurdish forces operating in this area were aligned with the Kurdish Democratic Party.\(^{40}\)

The fact that Kurdish leaders allowed Iraqi federal forces to stage from Makhmur was significant. Makhmur sits within disputed territory between the Kurdistan Region of Iraq and the area under federal control. Makhmur’s strategic importance is that it is located in between Mosul, Erbil, and oil-rich Kirkuk,\(^{41}\) and it provides overwatch for the Qayyarah bridge crossing that is an important link between the east and west banks of the Tigris.\(^{42}\) From the Kurdish perspective, this territory was part of a FLOT that ran more than 1,000 km, called the Kurdish Defensive Line, that the Peshmerga


\(^{41}\) Charountaki, 2018.

\(^{42}\) U.S. Army field-grade officer, interview with authors, June 9, 2020.
was defending against ISIS. The Peshmerga divided the FLOT into eight different sectors (see Figure 6.3) and permitted federal forces to transit Sectors 6 and 7 to tighten the cordon around Mosul. As will be discussed later in this chapter, U.S. influence with Erbil and a large financial inducement were required to persuade Kurdish leadership to allow Iraqi federal forces to stage from Makhmur.

As with the west bank of the river, there are no major urban centers on the east bank between Makhmur and Mosul. So, the east bank clearance required similar movement through a series of villages and small towns. Two of the early engagements occurred in the villages of Al-Nasr and Kabruk. Al-Nasr was the site of ISIS’s most significant early resistance to the Iraqi government advance. Reporting indicates that 100–200 ISIS fighters remained in that village to thwart the advance of the 71st Brigade from the Iraqi 15th Infantry DIV sent to clear the area. The CJTF-OIR spokesman described the engagement as a “tough fight”; after an initial advance into Al-Nasr, the ISF retreated. The spokesman noted, “[The ISF are] in this kind of back-and-forth over [Al-Nasr]. They’ve advanced. They’ve withdrawn. And now they’re in the process of advancing again. That’s going to continue. We’re confident that they’re going to get there. But these things do take time.” The village would not be liberated for another two months.

Describing the resistance encountered in these operations that slowed progress, CJTF-OIR noted, “we’ve seen heavy machine guns, we’ve seen suicide

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43 U.S. Army field-grade officer, interview with authors, June 9, 2020.
45 For a description of the initial advance into Nasr, in which the JOC claimed to have killed 30 ISIS fighters, see “Intilaq Al-Safha Al-Thaniya min ‘Amaliyat Al-Fatah li Tahrir Al-Mawsil” (“The Start of the Second Page of Fatah Operations to Liberate Mosul”), Al-Mirbad, April 4, 2016.
46 Warren, 2016d.
FIGURE 6.3
Peshmerga Sectors Along the Kurdish Defensive Line

vests, we’ve seen VBIEDs—vehicle-borne IEDs used as guided weapons against their formations. . . . The fighting has been—I would describe it as stutter step. They have fought and then they have cleared an area, and then they fought again, then they have cleared an area.”

In contrast to Al-Nasr, Kabruk fell quickly and in a manner that validated efforts to build tribal auxiliary forces. In that operation, the 72nd Brigade from the 15th DIV partnered with local tribal forces to liberate the village. Specifically, tribal fighters established a blocking position south of the village while the 72nd Brigade advanced from the north. The difference in levels of resistance that ISIS put up in Kabruk and Al-Nasr is likely because of the greater strategic importance of the latter. Al-Nasr is located on high ground overlooking a cluster of villages known as Haj Al-Ali. This area provides access to the bridge crossing closest to Qayyarah. By mid-July 2016 (and with coalition assistance that is described later in this chapter), the Iraqi 15th Infantry DIV was able to bridge the Tigris at Qayyarah, providing a secure line of communication between its operations and the 9th Armored DIV on the west side of the river. Summarizing the importance, a CJTF-OIR spokesman noted, “The use of the bridge connecting the west and east sides of the Tigris, and connecting Qayyarah Airfield West and Makhmur will greatly improve maneuverability and shorten lines of communication for the ISF as they prepare for the eventual assault to liberate Mosul.”

As Iraqi federal forces consolidated gains around Qayyarah, Kurdish Peshmerga forces were advancing farther to the north, reaching a milestone in August with their crossing of the Zab River east of Mosul. This phase of the Peshmerga advance was named Evergreen II and involved between

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48 Garver, 2016c.
49 Warren, 2016g.
50 Al-Ghazi, 2016.
52 U.S. Army field-grade officer, interview with authors, February 18, 2020.
1,500 and 2,000 Peshmerga forces, among them some more-capable units within the Peshmerga’s Zeravani branch. In one of the quicker advances in this portion of the campaign, Peshmerga forces took 11 villages between Gwer and Al-Khazir in mid-August 2016. ISIS tactics, techniques, and procedures were similar to those used in other battles in the area, with the group erecting defensive belts and mounting VBIED attacks. The Kurdish commander of the operation noted that ISIS conducted 21 VBIED attacks in an effort to halt the Kurdish advance, but a combination of Kurdish ground fire and coalition air strikes destroyed the threat. Reflecting on ISIS’s position in the conflict, the Kurdish commander noted the group’s “weak morale” and confidently predicted further advances because the Peshmerga had crossed the Zab River and denied hide sites to ISIS that were previously located inside the liberated villages.

Within months, the Peshmerga moved to liberate the small towns in the southern Ninewa Plains area of Iraq, most notably Qaraqosh and Bartallah. These towns are populated by Iraqi minorities, principally Christians and Shabak, both of which were subject to some of ISIS’s worst atrocities. The territory taken would prove significant as the staging for Mosul progressed. Specifically, on the eve of the Mosul liberation operation, the Iraqi CTS was deployed to Al-Khazir and other towns, including Bartallah, from where the CTS occupied the main axis of advance (Road 2, also known as the M10)

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54 “Kurdish Forces Open Front and Tighten Grip on ISIS Capital Mosul,” Reuters, August 16, 2016.


56 U.S. Army field-grade officer, interview with authors, May 20, 2020. The Zerevani branch is one of the Peshmerga forces under the Kurdistan Democratic Party (KDP) and generally fulfills the role of armed police. It is considered more tactically proficient than other militia-type units that amount to local Kurdish defense forces.


east of Mosul. So, the Peshmerga’s clearance of this area in mid-August 2016 paved the way for the CTS to stage for Mosul from a secure area to the east of the city two months later.

Although the Peshmerga forces would not join the CTS in the counter-attack on Mosul to avoid inflaming Arab-Kurd sensitivities inside a predominantly Sunni-Arab city, they helped facilitate the Iraqi forces’ operations through their prior clearance operations. And the Peshmerga forces continued their advance until they were in control of the Bashiqa Heights, from where U.S. Army artillery could support the CTS ground maneuver into East Mosul.

Having presented a narrative account of how the ISF set the conditions for the liberation of Mosul, we now detail U.S. ground force contributions that enabled these operations.

Surface Fires

Unlike other Army warfighting functions, providing precision fires in support of the ISF during OIR was remarkably similar to the Army’s designed mission. One battalion commander recounted: “In my [OIR] deployment to Northern Iraq, I did almost exactly what I was trained to do back home.”

Another commander similarly noted that, from an artillery standpoint, “what we do on a daily basis in OIR—provide close support field artillery fires and support of maneuvering [Iraqi Security] forces—is exactly what we are designed for. Regardless of who we’re shooting for, we’re doing the same mission.” The U.S. military delivers fires more accurately now than at any time in its history, and this capability was on full display during this phase of OIR. The proficiency reached by these Army artillery units was extremely high. There were, however, some noted differences between the

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61 U.S. Army field-grade officer, interview with authors, February 18, 2020.

use of artillery in northern Iraq and combined arms doctrine, which calls for unified fire and maneuvers to mass effects that present multiple dilemmas to the enemy. In Iraq, the ISF depended heavily on fires to disperse or attrit enemy forces prior to terrain seizure through maneuver.63

During this phase of the fight, artillery was effectively employed to soften enemy defenses ahead of the ground maneuver as the ISF made their advance toward Mosul. Fires proved especially critical during the clearing of towns and villages. Specifically, artillery units conducted such functions as providing obscuration missions during river crossings and in urban areas, degrading enemy mobility of VBIED via pinpoint destruction and cratering missions, and conducting illumination missions to enable night operations.64 Additionally, they conducted counterfires missions against ISIS indirect fire positions targeting both ISF and coalition forces.65 Fire missions included precision strikes with Excalibur and Precision-Guided Kit (PGK) rounds as well as area suppression and terrain denial.

During the condition-setting phase of the battle, the primary source of artillery came from TF 1–320th Command, also known as TF Top Guns. Prior to their deployment to Iraq in April 2016, the 101st DIV Artillery attached TF Top Guns to 2nd BCT TF Strike. On arrival in country, TF Top Guns executed a relief in place and transfer of authority with field artillery battalion, 3–6th Field Artillery Regiments, TF Centaurs. The latter controlled all fires in support of ISF operations in Ninewa Province and commanded the U.S. artillery fire base while serving as the base operations support integrator for Camp Swift. Concurrently, TF Top Guns assumed command of Kara Soar Fire Base. Originally known as Fires Base Bell, Kara Soar had been established by a Marine Expeditionary Unit in early 2016. The relatively isolated base just north of Makhmur occupied a critical loca-

63 U.S. Army field-grade officer, interview with U.S. Army Military History Institute, Camp Swift Iraq, May 7, 2017, transcript provided to RAND.
64 Garrett et al., 2018; Wylie, Childers, and Sylvia, 2018, p. 4.
65 It was not uncommon for artillery forcers to conduct “fly-to-advice” missions; one such mission occurred in June 2016 in support of the 9th Armored DIV, where the U.S. team advised on employment of coalition and Iraqi internal field artillery fires during offensive operations. U.S. Army field-grade officer, interview with authors, February 18, 2020.
tion for seizing and securing towns along the Tigris River advance. The base would become the primary location of the TF until its closure in October 2016.66

TF Top Guns did not deploy an entire battalion to Iraq in support of OIR. Rather, the TF deployed one battery of M777A2 155mm howitzers, fire supporters, a radar platoon, a logistical platoon, and a battalion HQs/Staff element assigned to the unit. The deployment also featured a troop from 2BCT’s Cavalry Squadron, a platoon of air defense artillery, and an extra radar platoon attached to the TF for the majority of the deployment. During portions of the TF’s deployment, it would incorporate a platoon of M109A6 Paladins attached to the TF in a reinforcing role. A French battery of howitzers was colocated with the TF but not attached to it. Finally, at times during its deployment, the TF had a platoon of M142 HIMARs colocated but not attached. These nonattached units were serving a general support role to the CJFLCC-OIR.

The TF employed M982 Excalibur extended-range, 155mm guided artillery shells. The weapon provided a low collateral damage, surface-to-surface precision capability. It proved remarkably accurate, even at maximum range.67 The weapon has a circular error of probability of 6m and can be programmed to function in point detonation and delay mode. It has a safety feature that prevents it from detonating if it misses its target by more than 30m.

66 Established by 200 marines from the 26th Marine Expeditionary Unit (MUE) of Task Force Spartan, Fire Base Bell marked the first quasi-permanent U.S. presence on the ground outside the perimeter of a major Iraqi military installation in Iraq since U.S. forces returned in 2014. The base, roughly 24 km from ISIS-held territory, was the location of the first general-purpose U.S. combat troops to fight ISIS in Iraq on the battlefield. In early 2016, Marine Corps Battery E and Task Force Spartan would execute 67 days of sustained combat operations while providing fire support to Kurdish Peshmerga forces and ISF. On March 21, 2016, the base came under attack by ISIS troops equipped with small arms, machine guns, grenades, and SVESTs. A three-hour engagement ensued. From the base’s security positions, the battery employed four M777A2 Howitzers to illuminate and disrupt enemy movement. Without sustaining casualties, perimeter security personnel engaged and eliminated the ISIS troops with small arms and machine guns. See Melany Breedlove, “Inspector-Instructor Awarded for Heroic Action and Leadership,” Defense Visual Information Distribution Service, May 5, 2017.

67 One commander said, “we could hit a pin even at max distance” with the weapon. U.S. Army field-grade officer, interview with authors, February 18, 2020.
The U.S. Army made use of PGK technology, specifically employing the M1156 Global Positioning System–guided and course-correcting fuse to mate with conventional munitions. Although highly precise and valued to avoid collateral damage, PGK requires meteorological data that are current within 30 minutes. TF Top Guns employed M825A improved white phosphorus for illumination missions. This was often to assist escaping civilians or to illuminate ISIS activity during nighttime hours.

The Top Guns expended high amounts of ordnance. Figure 6.4 illustrates the number of fire missions and rounds expended each month between April 2016 and January 2017. The TF averaged just over 138 fire missions per month, with an average of 612 rounds each month. Three peaks are evident in the graphic: June, August, and October. The first corresponds with an illumination mission to aid civilians fleeing an ISIS-held area; the second with an artillery air assault raid; and the last with when operations within the city of Mosul began in earnest.

**FIGURE 6.4**
Artillery Fire Missions and Rounds for Task Force Top Guns (1–320th Field Artillery Regiments), April 2016–January 2017

![Graph showing the number of artillery fire missions and rounds from April 2016 to January 2017.](SOURCE: U.S. Army field-grade officer, interview with authors, February 18, 2020.)
Although U.S. and coalition forces expended high amounts of artillery munitions, planning these fires in support of the ISF sometimes proved challenging. This phase of the operation saw the clearing of hundreds of small towns and villages. The ISF would usually present a general plan to the Americans. The U.S. Army would then advise on procedures for combined arms to seize the town. The fires plan in support of the operation would follow. However, it was not uncommon for original Iraqi plans to begin with a sustained barrage of high explosives in the center of the town. “We know they are in there” was a refrain one U.S. commander recounted hearing numerous times from the ISF at the outset of planning operations.68 Plans would ultimately receive modifications to minimize collateral damage and death to civilians. Iraqi forces tended to exhibit less concern about collateral damage than their U.S. counterparts. Once agreed on, the artillery brigade would produce a fires plan for approval in the northern strike cell located in Erbil. Even with the precision munitions, targets were often refined several times to minimize collateral risks.

One reason counterfires missions were required was on account of ISIS’s indirect fires systems: mortars, rockets, and artillery. The mortars favored by ISIS included 60mm, 81mm, and 120mm systems for targets roughly 2–5 km from their positions. These mortars were generally inaccurate, serving mostly to disrupt and harass rather than destroy targets. Among the primarily mobile rockets used by ISIS were 107mm, 122mm (6ft), and 122mm (9ft) systems. Their respective ranges varied depending on caliber and size of the system, averaging roughly 8 km for 107mm systems and up to 25 km for the 122mm (9ft) rockets. ISIS rockets included the 122 Egyptian SAKR, containing 98 air-bursting submunitions.69 Finally, ISIS made use of artillery. Specifically, it employed D-20s, D-30s, and M198s to project indirect fires, often in support of counterattacks on ISF offensives. This equipment was employed from a variety of improvised platforms and terrain, such as from trucks and trailers and from underneath bridges. The effectiveness of

68 U.S. Army field-grade officer, interview with authors, February 18, 2020.

these units was generally poor, with ISIS’s fires most often failing to achieve lethal effects. Although ISIS’s use of indirect fires was not sophisticated, they were generally employed in nonstandard ways. This meant that U.S. intelligence had to learn to identify their specific signals and signatures.

Airspace deconfliction and target clearance were important aspects of fire support during this and later phases of the fight. The use of altitude blocks smoothed the deconfliction process by dividing the airspace into three stacked layers. Army airspace was considered 14,000 feet and below, within which the majority of ISR platforms operated. Air Force airspace was directly above this, extending up to 23,000 feet for fixed-wing assets. Airspace above this threshold was reserved for civilian aviation, and required deconfliction when firing Excalibur, whose range extends to 40,000 feet.70

During this phase of operations, target engagement authority (TEA) was held by a brigadier general, based out of a strike cell in Erbil. Fire approval depended on whether the fires were part of preplanned strikes or targets of opportunity. For the former, the artillery unit would design a fires plan and pass it to the operations team at the northern strike cell located at Combined Joint Operations Center–Erbil (CJOC-E). There, the plan would undergo review to meet several criteria. By contrast, dynamic targeting occurred when ISF units came under fire. In these instances, the artillery battery still required sign-off from the TEA at the strike cell, which could take as little as a few minutes or require up to an hour. It was not uncommon for strikes to be declined altogether depending on battlefield circumstances.71

Close Combat Attack

During this phase of the fight, CCA aircraft for OIR primarily consisted of U.S. Army AH-64 Apaches and armed and unarmed theater-level and

70 Commanders noted that although military airspace clearance was relatively simple, civilian airspace was more complex and took additional time to achieve. Consequently, the Battalion Fire Direction Center often attempted to preclear airspace with the CJOC as soon as Excalibur fire missions were requested. U.S. Army field-grade officer, interview with U.S. Army Military History Institute, Camp Swift Iraq, May 7, 2017, transcript provided to RAND.

71 U.S. Army field-grade officer, interview with authors, February 18, 2020.
organic UAS. These assets were eventually employed against ISIS in both the close and deep fights in direct support of ISF maneuver forces in direct contact.72 The Apaches were perhaps the primary asset in this role. We therefore concentrate on their contribution and its evolution.

The development and use of Apache battalions in an offensive role was slow to develop. From the onset of OIR in 2014, Apaches were present. In summer 2014, a platoon of Apaches from the 1st Attack Reconnaissance Battalion, 10th Aviation Regiment deployed from Kuwait to the Baghdad International Airport as a stopgap to stem the ISIS initial advance. Their mission would slowly grow and expand from there—albeit very much in a piecemeal fashion. The Apaches were initially intended for limited use and as a safety net in case ISIS should threaten Baghdad proper or the U.S. embassy. The Apaches were deployed for medical evacuations, transporting supplies, important visitors, and general officers. They were primarily deployed out of Baghdad International Airport, and some aircraft eventually were deployed to Taji during the later parts of the Obama administration. Because there were no boots on the ground in Iraq at that time, the Apaches were viewed as “boots in the air,” and primarily a defensive asset.73

By the end of 2015, however, there were signals that the situation might change. In December 2015, amid the fight to retake Ramadi, Secretary Carter noted that the United States had offered to introduce Apache helicopters in support of operations in that city. The Pentagon announced, however, that the Iraqi government had not requested Apache support. The official OIR spokesperson did note:

If the Iraqi government asks for Apache helicopters, and the mission is right, if we agree, then we’ll use Apache helicopters. . . . Apache helicopters are ready, so all we have to do is find an operation or a mission that . . . they will be able to impact, and then agree with the Iraqis that it’s the right time to use them. But that agreement hasn’t come yet, right? So we have not yet agreed to use Apache helicopters in Iraq.

72 Wylie, Childers, and Sylvia, 2018, p. 3.
73 U.S. Army field-grade officer, interview with authors, November 20, 2019.
What we have done is told the Iraqi government that, if they would like us to, we’re willing to.\footnote{Warren, 2015c.}

By the summer of the following year, Apaches would become a key offensive weapon for CCA in support of both ISF and Peshmerga forces. There were several factors contributing to this shift. In mid-March, a U.S. Marine Corps staff sergeant was killed by an ISIS rocket at Fire Base Bell outside Makhmur. Several others were wounded in the attack. This event contributed to a growing sense that the coalition lacked QRF capabilities in and around Erbil. In response to the attack, four of the eight Apaches in country at the time were transferred from Taji to Erbil for force protection and QRF responsibilities. It soon became obvious that splitting a company two ways with four Apaches in Taji and four in Erbil provided insufficient combat power in light of maintenance issues and the operational tempo. “You can always assume that one’s going to be broke,” noted a battalion commander about the use of Apaches in Iraq.\footnote{U.S. Army field-grade officer, interview with U.S. Army Military History Institute, undated, transcript provided to RAND.} By June, another company of Apaches was transferred from Kuwait to Iraq—which resulted in the stationing of eight Apaches in Erbil and another eight in Taji. By this time, the aviation commanders wanted to employ their assets for more than QRF.

As the fight shifted to operations up the Tigris River Valley, the U.S. Apache battalion commander was asked to produce concepts of operations for the employment of Apaches. The proposed concept involved several mitigation strategies to buy down risk. It entailed the employment of a combination of Apaches complimented with UAS to permit standoff operations.\footnote{The battalion at that time was operating with Grey Eagle and Shadow UAS.} This approach, known as \textit{manned-unmanned teaming}—was proposed in light of ISIS air defense threats, specifically Man Portable Air Defense Systems (MANPADS). To mitigate the MANPADS threat, the Apaches would fly between 5,000 and 6,000 feet, and initially only at night. They would remain behind the FLOT, and there was an Aerial Response Force on standby during Apache flights. By June 2016, the concepts of operations were approved. “Start shooting” were the words that
one battalion commander used to describe the go-ahead for employment of Apaches. By this time, the Iraqis were pushing toward Qayyarah Airfield West in Operation Valley Wolf but had stalled after crossing the Tigris. Teamed with a Grey Eagle UAS, Apaches began engagements in June 2016 in support of this operation.

Throughout the summer, they would continue targeting ISIS (often VBIEDs) in night flights at high altitude, usually shooting at a distance of 7 to 8 km from targets. Flights over ISIS-held territory were prohibited. Targeting was conducted via coordination with a team of JTACs located in Erbil. The Grey Eagles directed a live feed to the JTACs, who would ultimately provide clearance to shoot. As operations continued throughout the summer, pilots became more accustomed to flying in the environment and more comfortable. Demand for Apache support increased precipitously.

Although the use of AH-64s in a CCA role was a success, at least two issues complicated the Apache role during this stage of the fight, neither of which was ever fully resolved. The first issue was aircraft maintenance supply. “We flew the birds until they broke,” one Apache pilot recounted. The upshot was that, without spare parts, Apache helicopters often sat unflyable for days. Acquiring new parts involved a process of shipping needed components from the United States to Kuwait, followed by shipping them to Baghdad, whereupon they would eventually be transported out to the field. The process took days and sometimes weeks. Maintenance and the acquisition of parts remained a perpetual difficulty for Apache units in Iraq. Compounding matters further was the fact that the National Guard unit in Kuwait at the time did not operate Apaches and therefore lacked organic maintenance know-how for the aircraft it was supporting. The direct result was fewer aircraft in the air on any given

77 U.S. Army field-grade officer, interview with authors, November 20, 2019.

78 This targeting protocol is somewhat at odds with Army doctrine. Army aviation is considered a maneuver element, according to Army doctrine. But because this was a joint operation, targeting was conducted according to joint fire procedures, which meant that all fires were to be approved by a JTAC. The only exception to this was for self-defense. Army aviation assets could fire without JTAC clearance if they received hostile fire. An Army field-grade officer noted: “It’s essentially CAS (Close Air Support) here. Army doctrinally doesn’t consider rotary wing CAS but that’s how we’re being employed here.” U.S. Army field-grade officer, interview with U.S. Army Military History Institute, undated, transcript provided to RAND.
day. Under force manning level constraints, the emphasis was on operators and increasing the number of aircraft in country and in the sky during operations. The appropriate support structure to enable a quickly expanding CCA effort was largely an afterthought.

The second issue affecting the Army’s capability to provide CCA was the organizational challenges arising from fragmented or split command structures. The 1st Attack Reconnaissance Battalion is a case in point. It originally deployed in March to Kuwait in support of Operation Spartan Shield, where it found itself under a National Guard CAB that had been operational for roughly three months. The Guard unit was put together out of units from nine different states. Immediately on the battalion’s arrival, the CAB commander moved to deploy one of its companies to Afghanistan, a move that frustrated the battalion commander. By April, the battalion would find itself split: Roughly half was in Kuwait; the other half was in Iraq, divided between Erbil and Taji—plus the one company sent to Afghanistan. The battalion commander operated his headquarters out of Iraq while his executive officer remained in Kuwait overseeing personnel not sent to Iraq. It was not until the summer that the battalion received approval to send 200 more personnel from Kuwait to Iraq. “The battalion was not designed to be broken up,” reflected one of its senior personnel.

Advising

In addition to enabling via the provision of fires and CCA, U.S. Army personnel were involved in advising the Ninewa Operations Command, and, subsequently, the specific units that fought as part of the Ninewa Operations Command, to set the conditions for the liberation of Mosul. This section will focus on two themes that were frequently cited in our interviews with U.S. Army advisers. The first is that advising occurred in the context of a highly sensitive political backdrop: Arab-Kurd tensions. The

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79 The battalion commander (an O-5) essentially still reported directly to the CJFLCC commander; this arrangement was a source of frustration for the National Guard. U.S. Army field-grade officer, interview with authors, November 20, 2019.

80 U.S. Army field-grade officer, interview with authors, November 20, 2019.
second is that policy shifts that allowed U.S. advisers to engage at lower than a division headquarters level increased the impact that U.S. personnel had on operations.

Local Tensions
A key theme with significant import for the A&A mission during this period was an appreciation for key political and social tensions within Iraq. These fissures were present along several fault lines. The first, and most prominent, was the Arab-Kurd relationship between Baghdad and Erbil. A second schism arose from extant political divisions within the Iraqi Kurdish establishment that carried over directly into their military forces. Both would have considerable implications for U.S. forces advising the ISF and Peshmerga as they advanced up the Tigris, village by village, toward Mosul in anticipation of its ultimate liberation.

The most critical political division in Iraq relevant to the mission to liberate Mosul and defeat ISIS was the Kurdish relationship with Baghdad. The Iraqi military had a history of violent suppression of the Kurds, who took seriously any threat to their autonomy. Matters were only exacerbated when the Kurds retook control of Makhmur and the surrounding areas from ISIS in August 2014. This non-Kurdish area roughly 55 km from Erbil is territory disputed by the Kurds and the Iraqi federal government and had primarily been the responsibility of the IA rather than Kurdish forces. But when Iraqi forces fled in the face of ISIS’s advance, the Peshmerga seized the opportunity to expand the Kurds’ territorial control. By summer 2016, the Kurds were in control of Makhmur and oil-rich Kirkuk and had reinforced their FLOT in an effort to protect their advance. The Kurds began selling oil directly to Turkey and among themselves rather than piping the oil to Baghdad. Baghdad responded to the loss of oil revenue in the area by ceasing government funds to Kurdish regions. In advance of the Mosul campaign, the Kurdish rapport with the federal government was adversarial. In January 2016, Amnesty International reported that Kurdish forces in northern

81 Charountaki, 2018, p. 1595.
Iraq had burned and bulldozed the homes of Arab families in an effort to displace Arab communities.\textsuperscript{82}

The recapture of Mosul would put the fraught relationship between Erbil and Baghdad in full relief. Iraqi Prime Minister Al-Abadi and Kurdish President Masoud Barzani were the critical power brokers for the two sides. And their cooperation would be indispensable to retaking Mosul. As described previously, the plan to defeat ISIS in its stronghold required ISF troops passing through Peshmerga lines and assembling within KRG territory in anticipation of the assault. On account of the divisive political history between the Kurds and Baghdad, this was troubling to President Barzani. Secretary Carter would allude to these difficulties: “[M]emories of the Iraqi military’s violent suppression of the Kurds—including Saddam Hussein’s use of chemical weapons—were painfully fresh. Literally, the last time Baghdad’s forces had set foot in some of the places they would be going, it was to hunt down and kill Kurdish fighters.”\textsuperscript{83} Negotiations between Erbil and Baghdad over the recapture of Mosul started at the end of 2015 and would require constant attention right up to the operation. In December 2015, Secretary Carter received assurances from both Barzani and Al-Abadi that their respective forces would cooperate in the advance toward Mosul.\textsuperscript{84} The arrangement would more or less hold—but not without consistent and careful attention at all levels.

U.S. A&A forces were critical to managing this relationship, particularly those providing support to the Ministry of Peshmerga Affairs. During this phase of operations, U.S. forces partnered with the Peshmerga at the ministerial level out of a headquarters in Erbil. They would transition to advising regional guard brigades on force generation, integration, combined arms,


\textsuperscript{83} Carter, 2017b, p. 27.

\textsuperscript{84} On this arrangement, Secretary Carter noted: “I told both men that they would not get to keep what they took—that Mosul would return to its pre-ISIS status quo as a multiethnic city. The militias would stay on the sidelines—Abadi would need to ensure this. And regular ISF troops would need access to Kurdish territory . . .” (Carter, 2017b, pp. 27–28).
and sustainment activities. U.S. personnel would support improvements of the Kurdish Training Coordination Center.

The emphasis of A&A forces during this phase was “keeping Peshmerga in the fight and also keeping them aligned with Iraqis.”\(^{85}\) A big part of this was the United States providing financial incentives to the Kurds. On account of Baghdad suspending payments to the Kurds, it was difficult to keep Peshmerga forces manning their defensive lines. The United States approved a package of $415 million in support of the Kurds. When this funding became available, it greatly facilitated Kurdish and Iraqi military integration and specifically kept the Peshmerga on their front lines in July 2016.\(^ {86}\) Although this funding proved critical in keeping Kurdish forces engaged militarily, political difficulties still affected operations. “On a daily basis in the same compound [Ninewa Operations Command] the Pesh[merga] would ask us to keep the Iraqis on their side. They didn’t want to be near them. My guys even had to break up shoving matches at times,” related an Army officer deployed in 2016.\(^ {87}\)

Although the operations were building toward the counteroffensive in Mosul, the Kurds wanted to place their most-capable brigades where they felt most vulnerable: Kirkuk, where the expected threat was from Iraqi forces and not ISIS. Although the Peshmerga campaign would not go beyond the Ninewa Plains, “they went to the next defensible piece of terrain and expanded their area of control leading up to October [2016] in order to defend against both ISIS and the [government of Iraq].”\(^ {88}\) This frustrated U.S. Army advisers, who spent hours negotiating where to place combat power throughout Kirkuk, southern Erbil, and further west in anticipation of Iraqi troops traversing the area in advance of Mosul operations.

The TAA that the Kurds selected were suboptimal from a military planning perspective. They provided little access to roads and were therefore not

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85 U.S. Army field-grade officer, interview with authors, June 4, 2020.

86 From a legal standpoint, the Peshmerga were part of the ISF. On this point, one U.S. Army field-grade officer stationed out of Erbil said that “the Kurds wanted to be part of the ISF only when money became available” (U.S. Army field-grade officer, interview with authors, June 9, 2020).

87 U.S. Army field-grade officer, interview with authors, June 24, 2020.

88 U.S. Army field-grade officer, interview with authors, May 19, 2020.
sustainable. However, the Kurdish priority was keeping Iraqi forces out of Kurdish communities. One U.S. adviser complained: “They wanted to make sure Kurdish people didn’t see ISF buying breakfast or getting gas as they transited Kurdish territories. In fact, up to October [2016], we were unsure of getting the TAAs authorized for CTS advance from east to west.” Though uncertain, Kurdish leadership did ultimately acquiesce to Iraqi forces transiting Peshmerga-held territory. This movement was coordinated by a U.S. engineer battalion and a CJFLCC commander lobbying Barzani to acquiesce. This paved the way for the Iraqis to move a little more than a division’s worth of combat power through Kurdistan to occupy Makhmur and eventually press toward Mosul.\(^8^9\)

The Army owed a large part of its success in navigating the political sensitivities in Arab-Kurdish relations to its military advisers in the Office of Security Cooperation in Iraq during this period. In particular, the Army had two personnel operating under Chief of Mission authority at the Erbil consulate general. These Army officers were entrusted with advising the Ministry of Peshmerga Affairs. With frequent access to Barzani, they conducted strategic-level advising with the Kurds on such topics as how to work within the constructs of the ISF. They proved critical for maintaining the Peshmerga security corridor for the ISF’s advance on Mosul. Moving through channels in the Office of Security Cooperation in Iraq enabled them to assist with the acquisition of material from the United States and coalition partners. “We could speak army with other army people,” one adviser recounted. A common language enabled them to offer the Peshmerga—a land force—advice on tactics, equipment, and defense. “Understanding the fundamentals of maneuver warfare was important for my discussions with Peshmerga leaders,” the adviser further noted.\(^9^0\) This relationship allowed U.S. Army personnel to communicate Peshmerga interests to U.S. political leadership.

This was important on account of the political unrest and outright divisions within the Kurdish camp. In October 2015, around the time the advisers arrived, President Barzani had ejected the Goran (“Change”) Party from the Kurdish government. As it turned out, the incumbent Minister of Pesh-

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\(^8^9\) U.S. Army field-grade officer, interview with authors, May 8, 2020.

\(^9^0\) U.S. Army field-grade officer, interview with authors, June 9, 2020.
merga Affairs belonged to this party and was replaced by Karim Sinjari, a former Minister of the Interior. Such political divisions were reflected in the Peshmerga forces themselves. In general, the Peshmerga consisted of three primary arms: the 70s Force, the 80s Force, and 14 regional guard brigades. The former two units are highly political and maintain their own organizational and financial structures. The 70s Force is affiliated with the Patriotic Union of Kurdistan (PUK); the 80s Force is affiliated with the KDP. By contrast, the regional guard brigades are largely apolitical. Although U.S. military advisers went to great lengths to depoliticize and restructure the 70s and 80s forces in what was known as “Peshmerga 2025,” the efforts did not achieve a genuine overhaul. One U.S. military adviser would describe the 70s and 80s forces as more loyal to party than country.91

The story of the Iraqi and Kurdish advance on Mosul is one of uneasy allies forging a tenuous compromise. The Army personnel on the ground, especially the A&A teams, had to manage this fractious relationship constantly. The effort was beset with setbacks and miscommunications at all levels. These tensions continued right up to the October 2016 onset of operations in Mosul. As the launch of Mosul operations approached, General MacFarland, the 3-star CJTF commander, warned that the Kurds were still preventing some Iraqi troop movements. Secretary Carter would ultimately intervene with Barzani to resolve the matter and move the Mosul plan forward.92 From an A&A perspective, appreciating and handling this fraught historical relationship was an indispensable component for successful ground operations. The United States provided critical financial incentives to incentivize the Kurds, but managing and executing the A&A role fell largely on U.S. Army personnel on the ground in Iraq.

Advising at Lower Echelons

Although Arab-Kurd tensions greatly complicated the U.S. advisory mission, this was a period when policy shifts generated further opportunities for advising. One of the “accelerants” introduced during this period was to permit U.S. ground forces to advise at lower echelons than division-level

91 U.S. Army field-grade officer, interview with authors, June 9, 2020.

92 Carter, 2017b, p. 34.
headquarters. The brigade commander at the time, then-Colonel Sylvia, referred to the new latitude as enabling “expeditionary advising.” This policy shift was noted by Secretary of Defense Carter in April 2016, a month before TF Strike took over the primary A&A mission. Secretary Carter noted that “we’ll be placing advisers with the ISF down to the brigade and battalion level.” This was a change from the prior practice of U.S. advisers operating from a division headquarters with less frequent “flying to advise.”

Describing the initial situation at the outset of their deployment, TF Strike members recalled:

> When TF Strike assumed the mission in Iraq, the entirety of the unit, including advise and assist teams, was constrained to operating out of a few large Coalition bases. Advise and assist teams had limited ability to move by ground behind the Forward Line of Troops (FLOT) and no ability to move forward with Iraqi combat units . . . In a few rare instances, advisers moved out to their partner’s forward headquarters via helicopter for a short period of time, at most 48 hours, a technique known as ‘flying to advise.’

The significance of the “accelerant” was that U.S. advisers would now be allowed to operate at the forward headquarters of Iraqi divisions and able to advise at lower echelons down to the brigade and battalion levels. Although the policy change was announced in April 2016, the first advising at lower echelons would not occur until July 2016 during a bridging operation (profiled here and in the subsequent engineering section of this chapter). The CJTF-OIR spokesman was frequently asked about when the change in advising would be implemented; in mid-May 2016 and then again in early and late June 2016, CJTF confirmed that the command had not yet availed itself of the authority.

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96 See Warren, 2016g; Christopher Garver, “Department of Defense Press Briefing by Col. Garver via Teleconference from Baghdad, Iraq,” press release, Operation Inherent
In July 2016, CJTF-OIR used this new authority, sending bridging advisers out to the east bank of the Tigris to advise the ISF in their bridge emplacement and defense of the operation from ISIS fire and IEDs. (ISIS attempted to attack the bridge using explosives embedded in tree trunks and even a refrigerator they floated down the river.) CJTF sent “around 10 or less” advisers to assist the 72nd IA Brigade in this effort.97 The advisers slept at the more secure location behind the FLOT at Camp Swift but spent days in the field with their Iraqi counterparts. This was a significant change in the nature of the advising process that would further evolve in the coming months.

For example, in the following month, a small element of an SFA brigade was redeployed from the U.S. Army theater reserve force in Kuwait to Iraq. The deployment consisted of a platoon-sized element drawn from the 1st Battalion, 67th Armor Regiment of the 3rd BCT of the 1st DIV. As an Armor Regiment, these U.S. Army soldiers were paired with the Iraqi 9th Armored DIV in an A&A role. In their advisory capacity, “Task Force Dealer [the nickname of this Armor Regiment] conducted basic officer professional development (OPD) that focused on maneuver basics as well as the characteristics of the offense and defense.”98 The enabling took the form of the provision of ISR and supporting fires for the Iraqi ground maneuver.

Executing this role required the new authorities to advise at lower echelons in the field rather than remotely from division headquarters. Soldiers from the U.S. Armor Regiment lived in “Force Providers,” which they described as “essentially deployable base camps, that could be set up and fully operational in as little as 3½ hours.”99 This greater connectivity provided U.S. Army A&A teams with more opportunities to shape the ISF’s operations while demonstrating commitment to the partner force.

Because the Peshmerga was one component of the ISF that set the conditions for Mosul, it should be noted that U.S. advising to this force already

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97 Garver, 2016d.
occurred at a lower level than the division. This exception was driven by the structure of the Peshmerga itself, which does not have divisions as part of its organizational structure. This meant that, prior to the July 2016 bridging operation, the U.S. battalion commander under TF Strike tasked with advising the Ministry of Peshmerga Affairs was already advising regional guard brigades along the Kurdish defensive line.100

Engineering

Setting the conditions for Mosul depended on engineering support provided by U.S. Army units. There were four principal contributions made by the U.S. Army in this realm. The first was engineering support to improve training facilities in the Kurdistan Region of Iraq that could be used as sites to build the capabilities of the Peshmerga ahead of Operations Evergreen I and II. The second was building out the physical infrastructure at Camp Swift and the facilities adjacent to it, which encompassed the Iraqi-led Ninewa Operations Command and Kara Soar Counter Fire Complex. This enabled Iraqi and coalition forces to use the site in Makhmur to advance on Mosul from the southeast. The third was advising the ISF as they executed a contested river crossing via a ribbon bridge established at Hajj Ali. The bridging operation linked the Iraqi 9th Armored DIV to the Iraqi 15th Infantry DIV, unifying two advances that had been operating separately on each bank of the Tigris until that point in time. And the fourth was establishing life support at Qayyarah Airfield West so that it could be used as a staging base for the eventual counterattack on Mosul.

Coalition trainers in northern Iraq—who were principally European members of the coalition101—were operating from three primary sites: Atrush, Menila, and Bnaswala.102 At these sites, the coalition was training Kurdish Regional Guard Brigades, which were professionalized units with an integrated structure that rotated between KDP- and PUK-aligned

100 U.S. Army field-grade officer, interview with authors, May 20, 2020.
102 U.S. Army field-grade officer, interview with authors, June 9, 2020.
commanders. U.S. Army personnel, and specifically the 7th Brigade Engineering Battalion (BEB) under TF Warrior, oversaw improvements to those three facilities in 2015 and 2016. In these efforts, the 7th BEB was able to draw on funds from the Iraq Train and Equip Fund to build out firing ranges and improve living conditions at on-site barracks. Moreover, the BEB Headquarters oversaw this engineering support as a secondary mission to its primary mission (the primary being to advise the Ministry of Peshmerga Affairs). Although an unheralded contribution, these efforts enabled training, demonstrated U.S. commitment to European coalition partners— who were the primary trainers—and affirmed U.S. investment in Kurdish units as one element of Iraqi partner ground forces.

In addition to engineering support provided to Kurdish training facilities, TF Warrior and then TF Strike needed to build out facilities in and around Camp Swift, which was the coalition base at Makhmur. The process began in October 2015 under TF Warrior. The effort to establish Camp Swift as a forward operating base was led by the U.S. Army’s 3rd Battalion 6th Field Artillery Regiment. In this effort, the Field Artillery Regiment was supported by a U.S. Army Engineer from the 7th BEB and by successive National Guard deployments that carried out the construction. The initial U.S. Army deployment to this austere location was composed of just five personnel who relied on life support from Iraqi and Peshmerga forces. By February 2016, the location was sufficiently established that the Iraqi Ninewa Operations Command moved its headquarters to this location. At the same time, improvements in the facilities were sufficient to grow the U.S. Army footprint at this site to 80–100 personnel. Some of these personnel advised Major General Al-Jabouri on the operations profiled earlier in

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105 The basing infrastructure in Makhmur can be very confusing. Makhmur is a small town in Northern Iraq and the site of Camp Swift, which was initially constructed at a Peshmerga-controlled warehouse in the area. Adjacent to Camp Swift were the Iraqi-run Ninewa Operations Command under the leadership of MG Najim Al-Jabouri and a Kurdish command post. A short distance away were the fire bases at Kara Soar, which was initially a U.S. Marine Corps Fire Base (Fire Base Bell) but was later expanded to include additional firing positions with the marines ultimately relieved by a U.S. Army Field Artillery Regiment.
this chapter (e.g., Al-Nasir, Kabruk, Hajj Ali clearances); other U.S. Army personnel focused on base security; and others continued to build out the facilities or sustaining personnel, including via contracting through the local economy.\textsuperscript{106}

In addition to improving basing infrastructure, U.S. Army support was provided to execute a bridging operation in the area. Similar to the Ramadi counterattack discussed previously, Iraqi forces needed to bridge a 400m section of the Euphrates near Qayyarah to unite the advances that were proceeding up the east and west banks of the river. The crossing occurred in July 2016 and was initiated on the east bank of the river by the Iraqi 15th Infantry DIV.\textsuperscript{107} The U.S. Army supported this contested river crossing in two ways. The 1st Battalion of the 320th Field Artillery Regiment provided both counterfire against ISIS mortar and rocket positions and obscuration fire to relieve pressure on the 15th Iraqi Infantry DIV as it emplaced the bridge on July 15.\textsuperscript{108} This was critical as ISIS harassing fire had disrupted the first Iraqi attempt to emplace the bridge two days previously.\textsuperscript{109} In addition, soldiers from the 1st Squadron 75th Cavalry Regiment provided engineering advice to the Iraqis during and after the bridge emplacement. This was particularly significant in that this was the first U.S. Army advising mission in OIR that occurred at lower than the division level.\textsuperscript{110}

Having linked the east and west banks of the Tigris, U.S. Army engineers turned to establishing sufficient life support at Qayyarah Airfield West so that it could serve as the primary staging area for the counterattack on Mosul. The initial step was for the 39th BEB to send a roughly 60-soldier route clearance package into Qayyarah Airfield West to establish a secure presence at the facility. What those soldiers found was “post-apocalyptic

\textsuperscript{106} U.S. Army personnel, interview with authors, June 24, 2020.

\textsuperscript{107} Wylie, Childers, and Sylvia, 2018.

\textsuperscript{108} U.S. Army field-grade officer, interview with authors, February 18, 2020.

\textsuperscript{109} Garver, 2016d.

\textsuperscript{110} Garver, 2016d. Readers should note that this exempts prior U.S. advising with the Iraqi CTS and Peshmerga, which are organized differently than the conventional IA and with which the United States was advising at lower echelons than the division level.
destruction” in which ISIS had destroyed all the buildings on the site.\textsuperscript{111} Because operational planning called for tens of thousands of Iraqi forces to stage at the facility, the BEB was directed to pursue a more expedient solution than reconstructing the base facilities. Instead, the BEB opted for erecting large tents over concrete bunkers that did remain intact, establishing a perimeter of “Alaska barriers” (e.g., concrete blast walls), and establishing checkpoints and guard towers. Tactical kitchens were brought in as opposed to constructing more-elaborate mess halls. The actual construction was contracted locally to Iraqi firms, which freed up more of the manpower within the BEB to be devoted to base security. The security requirement included providing a mortar platoon, serving gate guard duty, and manning guard towers.\textsuperscript{112} The four functional contributions of U.S. ground forces are summarized in Table 6.2.

### TABLE 6.2

**Summary of U.S. Ground Force Contributions, Setting the Conditions for Mosul**

<table>
<thead>
<tr>
<th>Function</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surface fires</td>
<td>U.S. ground forces employed howitzers, Paladins, and HIMARS to support the ISF ground maneuver. This took the form of strikes on enemy forces and of obscuration and illumination fire. Many of these strikes were executed for Kara Soar just outside Makhmur, although the artillery batteries also fired from forward positions and conducted an air assault.</td>
</tr>
<tr>
<td>CCA</td>
<td>AH-64s were launched from Erbil in support of the ISF’s push up the Tigris. The first offensive strike by AH-64s in Iraq occurred in this area in June 2016. The Apaches used manned-unmanned teaming, operating in concert with Grey Eagles and Shadows (UAS platforms).</td>
</tr>
<tr>
<td>Advising</td>
<td>U.S. advisers received the authority to advise at the brigade and battalion levels during this period in OIR. During the period of setting the conditions for Mosul, it was still most common for advising to take place at the division headquarters level. However, this period did see the first lower-echelon advising to support the Iraqi bridging operation at Qayyarah. In addition, U.S. Army advisers were able to operate at lower levels of advising vis-à-vis the Peshmerga and CTS, as these forces are not organized around a division construct.</td>
</tr>
<tr>
<td>Engineering</td>
<td>U.S. engineers built up the facilities at Makhmur and established Qayyarah Airfield West as an Intermediate Staging Base for Mosul.</td>
</tr>
</tbody>
</table>

\textsuperscript{111} U.S. Army senior enlisted, interview with authors, July 1, 2020.

\textsuperscript{112} U.S. Army senior enlisted, interview with authors, July 1, 2020.
Conclusion for Setting the Conditions for Mosul

From April 2016 through October 2016, U.S. soldiers and marines helped establish the conditions for the eventual liberation of Mosul. The operation involved the ISF, advised and enabled by the U.S. ground forces, clearing ISIS-held territory on both banks of the Tigris. When that was achieved, the ISF would then control the southern and eastern axes of advance on Iraq’s second largest city, setting up its liberation in the nine-month battle that would follow. Setting the conditions for Mosul is an important part of the overall campaign, yet few have heard of it. That is because there is no major population center in this territory. Rather, the ISF needed to control GLOCs, take key terrain features (e.g., high ground, river crossings), deny ISIS hide sites in villages, and build up or retake basing infrastructure. The operation did not generate the attention that came with liberating population centers, but, without it, the most important battle in the campaign—Mosul—would not have been possible.

The main Iraqi units involved in the operation were the 9th Armored DIV, the CTS, the 15th Infantry DIV, the Peshmerga, tribal auxiliaries, and provincial police. The 9th Armored DIV was the primary conventional force on the west bank of the Tigris; the 15th Infantry DIV was the primary conventional force on the east bank. The elite CTS initially worked with the 9th Armored DIV on the west bank of the Tigris but would ultimately stage for the counterattack on Mosul from the east, advancing from positions initially cleared by the Peshmerga.

U.S. ground forces enabled this advance in myriad ways. Crucially, they provided fires support ahead of the Iraqi ground maneuver. This softened ISIS’s defenses, aiding the ISF’s advance. U.S. Army aviation provided CCA capabilities from AH-64 platoons. CCA was particularly important for addressing ISIS’s use of VBIEDs, which were among its deadliest weapons. In addition to these kinetic contributions, U.S. ground forces were advising the ISF. Initially, the advising took place far from the front lines at division headquarters. However, this period in the campaign coincided with policy changes that allowed for U.S. forces to advise at lower echelons, notably forward command posts and tactical operation centers. Finally, U.S. ground forces provided engineering support that allowed the Iraqis to establish the
necessary basing infrastructure and to execute difficult combined arms maneuver tasks, such as contested river crossings.

That the Iraqis tightened the cordon around Mosul from Makhmur and Qayyarah Airfield West was no coincidence; it followed from high-level U.S. military planning. Calling the seizure of Qayyarah Airfield West a “talisman of progress” in the fight, former Defense Secretary Ash Carter recalled

[In 2015], General Joe Dunford and I had briefed President Obama on a plan to step up the fight against ISIS. We had laid out the series of military tasks in Iraq and Syria that would lead us to the liberation of ISIS’s strongholds in Mosul, Iraq, and Raqqa, Syria. Q-West [Qayyarah Airfield West] was a fulcrum of that plan. Ejecting ISIS and turning the airstrip into a logistics hub was essential to seizing Mosul.113

CHAPTER SEVEN

The Battles for East and West Mosul

The fight to regain the city of Mosul from ISIS began in October 2016 and concluded in July 2017, a nine-month operation that liberated the city from two and a half years of ISIS rule. After ISIS seized the city and proclaimed it the Iraqi capital of its so-called caliphate in 2014,1 ISIS began preparing for a counterattack from Iraqi government forces, devising complex and sophisticated defensive positions, barriers, and obstacles with the aim of preventing the ISF from retaking the city. In October 2016, a combination of ISF—IA, Iraqi CTS, and Iraqi Federal Police—and the PMF began the operation to pierce the outer defenses of Mosul. The initial assault concentrated on the eastern half of the city, where ISIS defenses were believed to be weakest. The second major assault happened a few months later, with the ISF attacking into the denser and more heavily defended western half of the city. By July 2017, Iraqi forces, supported by coalition advising and enablers, successfully evicted ISIS from Mosul, signaling the impending collapse of the group’s territorial control in Iraq.2

The city of Mosul, its terrain, and its history, combined with ISIS’s defensive preparations, would present ISF combat forces and their coalition advisers with an array of tactical and operational challenges. Mosul is Iraq’s second-largest city, with an estimated population of nearly 1.4 million people, although ISIS’s seizure of the city precipitated an exodus of IDPs. It is a mixed city that features such minority groups as Turkmen, Kurds, and

1 Iraq had a second capital, Raqqa, in Syria.

2 For a good overview of OIR and the campaign to defeat ISIS, see Carter, 2017b.
Christians, but the majority of its inhabitants are Sunni-Arab. The city is segmented into two halves, East and West Mosul, along the Tigris River. East Mosul is linked to West Mosul by five bridges spanning the Tigris. East Mosul is the newer part of the city and has wider urban streets and less densely populated open areas. Importantly, East Mosul was close to the Kurdish Defensive Line, which meant that the Peshmerga provided support to ISF troops advancing along the eastern axis, although the Peshmerga did not fight inside the city itself.

In contrast to the sprawling east side of Mosul, West Mosul and its historic city center, often referred to as “Old Mosul” or the “Old City,” sits on the west bank of the Tigris and forms a complex maze of old buildings, winding narrow streets, mosques, and hospitals. West Mosul was historically home to IA officers and other Sunni elite; this demographic trait made it a natural choice as the capital of Al-Baghdadi’s caliphate. ISIS was able to tap into Sunni-Arab anger over Shi’a political domination of Iraq to recruit young men from West Mosul to serve as scouts, workers, and fighters. These aspects of both East and West Mosul would come to play an important role in the ten-month battle to retake the city from ISIS. Table 7.1 summarizes key events of the battle.

ISIS mustered an estimated 3,000–5,000 militants and fortified key defenses of Mosul before the ISF counterattack to retake it. An Iraqi citizen of Mosul at the time noted that ISIS had “booby-trapped all roadsides and walkways.” As ISIS lost control of East Mosul and retreated westward, its tactics evolved somewhat. On the eve of the ISF attack into West Mosul,

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5 For more on ISIS’s inflammation of Sunni-Shi’a tensions, see Tallha Abdulrazaq and Gareth Stansfield, “The Enemy Within: ISIS and the Conquest of Mosul,” Middle East Journal, Vol. 70, No. 4, Autumn 2016.
6 Tharoor and Karklis, 2016.
TABLE 7.1
Key Events During the Battle for Mosul

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISF counterattack on Mosul begins</td>
<td>October 17, 2016</td>
</tr>
<tr>
<td>Iraqi 9th Armored DIV is overrun at Al-Salam Hospital</td>
<td>December 6, 2016</td>
</tr>
<tr>
<td>Tactical Directive #1 is issued</td>
<td>December 22, 2016</td>
</tr>
<tr>
<td>Change over from TF Strike to TF Falcon occurs</td>
<td>January 19, 2017</td>
</tr>
<tr>
<td>East Mosul is liberated</td>
<td>January 24, 2017</td>
</tr>
<tr>
<td>West Mosul clearance begins</td>
<td>February 19, 2017</td>
</tr>
<tr>
<td>ISF secure Mosul International Airport</td>
<td>March 1, 2017</td>
</tr>
<tr>
<td>Operations in Old City commence</td>
<td>Late April 2017</td>
</tr>
<tr>
<td>ISIS blows up the Great Mosque of Al-Nuri</td>
<td>June 21, 2017</td>
</tr>
<tr>
<td>West Mosul is cleared</td>
<td>July 10, 2017</td>
</tr>
</tbody>
</table>

ISIS had come to rely primarily on mobile defensive tactics, employing a small force for fixed point defense combined with mobile counterattack teams using combinations of flanking strikes with RPGs, suicide VBIEDs, and small-caliber mortars.8

Iraqi Security Forces Planning and the Attack to Secure East Mosul

The ISF divided their plan to secure Mosul into a series of operational phases. Initially, the ISF would “set the conditions” (covered in Chapter Six)

to secure Qayyarah Airfield West and other key terrain that would create a staging and supply base for the ISF. That advance served the purpose of isolating Mosul by gaining control over major road networks leading into and out of the city. The second phase involved the isolation of Mosul to prevent ISIS from receiving reinforcements from outside the city and from escaping. Specifically, a mix of ISF troops would attack the outskirts of Mosul along four primary axes of advance. After isolating East Mosul, the ISF would attack directly into its western half to clear it of ISIS. Additionally, coalition strikes in this phase were used to destroy the entrance and exit ramps to the five bridges over the Tigris to inhibit ISIS’s ability to shift forces from east to west. (Some would remain passable to foot traffic but not vehicles). After East Mosul was secured, the ISF would shift their forces over to the west side of the city and carry out what was considered the critical phase to evict ISIS from its stronghold. The final phase transitioned from combat operations to the reinstatement of Iraqi governance and police in Mosul and the beginning of rebuilding the city.

To liberate East Mosul, the ISF assigned a division or division-like combat formation to four directions of attack, or axes. The CTS assaulted from east to west along what was designated Axis Aski Kalak. Aski Kalak is a town east of Mosul that sits on a main GLOC (Highway 2) that transits Mosul. The CTS was arguably the best tactical combat outfit in the ISF, especially compared with regular IA divisions. Protecting the CTS’s southern flank was the Iraqi 9th Armored DIV, which attacked in a northwesterly direction along Axis Guwayr. Guwayr is a town southeast of Mosul that sits on another main GLOC into the city (Highway 80). Attacking from north to south along Axis Filfayl was the 16th IA DIV. Coming from the south in a northerly direction along Axis Qayyarah was the Iraqi Federal Police DIV alongside elements of the 15th IA DIV. Rounding out this overall force was a division-like formation that consisted of PMF; these units consisted largely of Shi‘a militias sanctioned by the government of Iraq. The PMF attacked in

a northwesterly direction toward Tal Afar with the aim of disrupting ISIS’s lines of communication from Tal Afar into Mosul.\footnote{U.S. Army field-grade officer, interview with Mosul Study Group, 2017, transcript provided to RAND; Michael Knights, \textit{How to Secure Mosul: Lessons from 2008–2014}, Washington, D.C.: Washington Institute for Near East Policy, No. 38, October 2016.} (See Figure 7.1.)

Iraqi Prime Minister Al-Abadi announced in October 2016 that the ISF would soon begin the fight for “the liberation of Mosul.” He told the people of Mosul that “the hour of victory has come [and] God willing we will meet in Mosul to celebrate the liberation and your salvation from ISIS.”\footnote{“Battle for Mosul: Operation to Retake Iraqi City from IS Begins,” BBC, October 17, 2016.} Only a day after Al-Abadi’s announcement, five ISF divisions (the CTS, Iraqi 9th Armored, 16th IA, Iraqi Federal Police, and Emergency Response Division [ERD]) crossed their respective lines of departure to make the initial penetrations into the outer perimeter of East Mosul with their coalition A&A teams. In addition, the PMF (which was not formally a part of the ISF) advanced on its objective in the direction of Tal Afar. All thrusts cleared pockets of ISIS resistance along the major routes leading to Mosul. Within two weeks, the ISF’s attacking formations were ready to penetrate into East Mosul’s urban areas. It would prove to be a difficult, bloody, and highly destructive fight.

ISIS did not defend East Mosul with the intent of holding it at all costs. Rather, it established a mobile defense.\footnote{U.S. Army field-grade officer, interview with Mosul Study Group, 2017, transcript provided to RAND.} This mobile defense was designed to inflict as many casualties as possible on the ISF, then allow ISIS to fall back to a subsequent defensive position in urban terrain. The insurgents aimed to attrit the ISF to the point where they would lose the will to fight, or, if that did not occur, weaken them so much that they would fail in their subsequent assault on West Mosul. To do this, ISIS small units—usually a squad of six to ten fighters—would initially defend forward along a well-constructed and fortified antitank ditch that covered half the circumference of East Mosul.\footnote{U.S. Army field-grade officer, interview with authors, July 2, 2020.} Then, once the ISF penetrated the tank ditch—which they eventually did with support from coalition strikes (as Figure 7.1 shows)—
ISIS defended select urban blocks with obstacles and a complex mix of weapon systems by covering the roads that the ISF chose for executing their assault. Although it did not have enough fighters to occupy every building in East Mosul, ISIS did place weapons caches throughout the city and pre-
pared subsequent fall-back positions in buildings with obstacles, mines, and other delaying tactics. Concerning ISIS’s urban fighting techniques and its organizational structure, it is important to note that ISIS did not operate as a guerrilla or insurgent force in the battles for either East or West Mosul. ISIS had formal small-unit tactical organizations ranging from small teams to company-sized units with their own battlefield functions, such as fire support, ISR, and sustainment. (See Figure 7.2.)

Over the next month, the multipronged attack by five separate ISF divisions or division-like formations (the CTS; the Iraqi 9th, 15th, and 16th DIVs; and an Iraqi Federal Police division) and the PMF advance yielded success in certain areas but delays in others. These delays had the effect of producing a disjointed attack whereby the CTS made relatively good progress in its advance toward the center of East Mosul between the ISF’s 15th IA DIV in the north and the Iraqi 9th Armored DIV in the south. However, the latter two IA divisions achieved less success than the CTS, creating a salient—the forward movement of the CTS was exposed to ISIS attacks to its right and left sides, or flanks. The CTS’s limit of advance was much broader than that of the two IA divisions to its north and south. This created the opportunity for ISIS to directly attack the CTS from three different directions.¹⁵ (See Figure 7.3.)

The disjointed nature of these assaults, which left the CTS exposed to ISIS counterattacks in early December 2016, can be attributed to multiple factors. First, the CTS was more tactically proficient than the IA divisions (although, until 2014, it was trained to operate as an elite CT force to execute warrant-based arrests, free hostages, etc., and not as an infantry force executing ground maneuver).¹⁶ The CTS advanced more quickly than its conventional ISF counterparts but failed to anticipate that the slower progress of the 9th and 16th DIVs would result in a salient, which resulted in the CTS having both its right and left flanks exposed to ISIS counterattacks. The CTS division that fought in Mosul was composed of three subordinate

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¹⁶ Witty, 2018.
FIGURE 7.2
ISIS Defense of East Mosul


NOTE: CF = coalition force.
TFs—numbered 1, 2, and 3—which were somewhat similar in organization to IA infantry brigades. TF 1, which had been fighting steadily since it was first formed in 2007, was the most effective and well trained of the three; it had been trained in special weapons and tactics—like, small-unit tactics by U.S. and coalition SOF over the years. TF 1 had fought ISIS in Ramadi and Fallujah and other smaller Iraqi cities. By 2016, the other two CTS TFs attained reasonable sufficiency in conducting light infantry operations at the small-unit level, but not to the same degree as their more-seasoned TF 1 counterpart.

During the first five weeks of the fight to evict ISIS from East Mosul, the three CTS TFs led the assault for the CTS division. The CTS’s urban combat tactics were simple and effective in terms of retaking neighborhoods—albeit


18 U.S. Army field-grade officer, interview with authors, July 2, 2020; U.S. Army field-grade officer, interview with authors, June 23, 2020; U.S. Army field-grade officer, interview with authors, June 8, 2020; U.S. Army field-grade officer, interview with Mosul Study Group, 2017, transcript provided to authors.
at the cost of high casualties within the CTS ranks. Interviewees described the role of a CTS battalion commander as a “death sentence” on account of the number of killed in action. The CTS is estimated to have suffered as high as 50 percent attrition among the units that prosecuted the East Mosul fight, approaching 500 killed and 3,000 wounded.

TF 1 advanced using small combined arms teams spearheaded by an armored bulldozer, which cut through berms, tank ditches, and other point obstacles set by ISIS. Closely behind the bulldozer followed an ISF tank (either a U.S. M1 variant or a Russian-made T-72) supplied by the Iraqi 9th Armored DIV. The tank provided covering fire while close-following TF EOD teams cleared IEDs along the road of advance. If ISIS counterattacked with an SVBIED, the ISF tanks would engage ISIS with their main guns. Just behind the EOD team followed two teams of TF 1 infantry, moving in up-armored HMMWVs. The infantry’s mission was to protect the bulldozer, tank, and EOD team from ISIS attacks with small arms fire and RPGs from the flanks of the road. If ISIS resistance became too intense, TF 1 combat elements could draw on their SOF advisers to assist with either coalition ISR or strike.

Figure 7.4 depicts the standard tactical breaching or penetration method for CTS TF 1. As described, the lead CTS penetration team consisted of a tank, a bulldozer, and an EOD team followed by two-gun trucks of dismounted infantry—approximately 20–30 soldiers in the lead element of the TF 1 brigade as depicted in Figure 7.4. The sequencing of ISF combat elements is shown on the right-hand side of the figure. Notably, the ISF generally did not clear the open spaces indicated as white space on the figure because these open spaces contained multiple points from which ISIS could launch SVBIED attacks. The open areas presented significant challenges to the ISF tasked with constructing immediate protective berms with bulldozers. When penetrating along a street, a bulldozer could make use of nearby buildings by tying berms directly to them to secure an intersection fairly quickly. In the open areas that lacked infrastructure, the defensive berm would take much longer to construct, thereby increasing CTS vulnerability to ISIS counterattacks.

19 Witty, 2018.
FIGURE 7.4
CCA—ISF Action, ISIS Reaction

ISIS
1. Engages with small arms and RPG fire dozer and tank
2. Mortar fires against breach element
3. VBIEDs launch into flanks of tanks and dozers
(Fighters withdraw or leave some in place as sleeper cells)

CTS TF 1
1. CF ISR forward lead
2. Dozer creates breach in obstacle
   • Tank closely behind to provide cover fire
   • EOD closely behind for IED removal
3. Tank, EOD team with gun truck-mounted infantry and dozer move forward to next objective point
   • Immediately begin building berm and defensive position
   • Prepare for counterattack
4. Truck Mounted Infantry Battalion moves to forward position then begins back clearing of building adjacent to road

As noted, TF 2 and TF 3 were not trained as well as TF 1 and thus moved more cautiously through the ISIS-controlled terrain of East Mosul. Unlike TF 1, TF 2 and TF 3 would generally not attempt to forcibly penetrate ISIS’s defenses once they established contact; instead, they would transition to a hasty defense and draw on coalition fires to assist. Still, TF 1 and TF 2 made steady progress, albeit not to the extent of TF 1. These simple small-unit urban combat tactics allowed TF 1 to spearhead the attack into East Mosul while receiving support from CTS TF 2 and TF 3.21

On December 6, 2016, the Iraqi 9th Armored DIV advanced its 36th Brigade forward in a northwesterly direction about 3 km to seize the Al-Salam hospital, albeit without U.S. Army advisers close by who could coordinate supporting fires. The hospital had become an important C2, indirect fire, and logistics position for ISIS militants fighting in East Mosul. It is important to note that Iraqi brigades, such as the 36th in the 9th Armored DIV, did not have nearly the number of tanks and infantry fighting vehicles that are organic to a U.S. Armored BCT. (The latter has over 60 M1A2 tanks and 80 Bradley infantry fighting vehicles (IFVs); the ISF’s 36th Brigade at the time of its raid boasted only seven tanks—mostly T-72s and a few M1s—and 20 Russian-built BMPs.) By way of comparison, the total number of tanks and IFVs in the 36th was about the same as a U.S. reinforced tank or infantry company team.22 The 36th Brigade crossed its starting point at around 8 a.m. By early afternoon, it had seized the hospital. Instead of immediately setting up a defensive perimeter around the hospital with its handful of M1 tanks, BMPs, and uparmored gun trucks and dismounted infantry, the 36th Brigade essentially parked its vehicles wherever convenient along the street and waited for the rest of the division to join it.23


22 U.S. Army field-grade officer, interview with Mosul Study Group, Iraq, 2017, transcript provided to RAND.

This would prove to be a costly mistake, playing directly into a major strength of ISIS: the counterattack. Taking advantage of its central position in the city, ISIS moved numerous teams of fighters from other parts of East Mosul to converge on the forward position of the 36th and its relatively undefended position at the Al-Salam hospital; ISIS attacked the 36th Brigade from essentially all sides. As the attack unfolded, ISIS launched its leitmotif of counterattacking techniques—the SVBIED—which struck an ISF BMP and set it on fire. The explosion of the SVBIED and the BMP caused a chain reaction among the other vehicles of the 36th Brigade that were clustered near the explosion point. By nightfall, the position of the 36th had been overrun. The survivors of the 36th Brigade made it back to friendly lines only with the help of CTS units that converged on the area.\(^{24}\) (See Figure 7.5.)

This setback prompted changes (described in subsequent sections of this chapter) in the way that the U.S. Army advised and cleared fires to the ISF. But even with these modifications, the final clearing of East Mosul progressed slowly. By the middle of January, two IA divisions, the CTS, the ERD, and the Iraqi Federal Police were pushing the remaining ISIS fighters in East Mosul up against the Tigris River. But until the ISF seized Mosul University, ISIS retained a foothold in East Mosul. The university was an important C2 and logistics hub, as the Al-Salam hospital had become, and it was a well-defended strongpoint with routes connecting it to two of East Mosul’s bridges. Although the ISF attempted to siege the university multiple times, it was coalition airpower that finally attrited its ISIS defenders to a level sufficient to enable the CTS to successfully advance on the objective. Once the university had been secured in late January 2017, ISIS was essentially defeated in East Mosul. The stage was now set for the ISF to move into West Mosul and evict ISIS, just as they had done on the East side.\(^{25}\)

\(^{24}\) Australian Army field-grade officer, interview with Mosul Study Group, 2017, transcript provided to RAND.

\(^{25}\) U.S. Army field-grade officer, interview with authors, July 2, 2020; Kogon, 2017; U.S. Army field-grade officer, interview with authors, February 21, 2020; U.S. Army company-grade officer, interview with authors, November 22, 2019; DoD, “Civilian

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To clear West Mosul, the ISF first needed an operational pause to reposition their divisions from East Mosul in anticipation of the assault. It took about
three weeks for the ISF to reposition, refit, rest, and resupply their combat divisions before the final phase to evict ISIS from West Mosul began on February 19, 2017. During this pause, ISIS remained active. It refined its attack capability against ISF troops still in East Mosul and those repositioning to the west. Specifically, ISIS deployed small quadcopter drones for strike missions. Armed with 40mm munitions, the drones dropped their explosive payloads above ISF vehicle columns and command posts. ISIS routinely executed “deep strikes” with SVBIEDs traveling longer distances from West Mosul into East Mosul, often accompanied by small reconnaissance drones. The SVBIEDs targeted areas in East Mosul that had been previously cleared and were actively being rebuilt by Iraqi government agencies.26

The ISF’s plan of attack into West Mosul centered on the Iraqi 9th Armored DIV, the Iraqi Federal Police, the CTS, and the ERD. Iraqi leadership decided to keep the 16th IA DIV in place in East Mosul as a hold force and to eliminate a few lingering pockets of ISIS fighters.27 In West Mosul, the Iraqi 9th Armored DIV would execute a sweeping movement along Axis Badush around the western edge of the city to a point in northwestern Mosul. From this point, it would then launch an attack into the city in a southeasterly direction. The CTS would move along the right flank of the 9th DIV until it reached a point in southern Mosul and then attack along Axis Ghazlani northwestward into the city. Rounding out these attacking ISF columns were the Iraqi Federal Police and ERD, which would attack northward along Axis Tigris with the Tigris River directly on their right flank. The overall idea for this scheme of maneuver was to attack ISIS in West Mosul in unison from three different directions to create multiple, simultaneous dilemmas for the defending militants.

With the assistance of coordinated coalition firepower and ISR, the ISF advanced into West Mosul. By the middle of June, they had pushed back ISIS and surrounded the Old City. Figure 7.6 consists of five maps of the various advances into West Mosul from February to June 2017. Map #1 shows the


initial plan of attack as previously described. Map #2 shows the very limited advances made by the ISF for the month prior to March 21. Map #3 depicts the disjointed nature of the ISF thrusts, clearly evident by April 12. The Iraqi 9th Armored DIV coming from the north and west made only modest gains and still had not penetrated West Mosul proper. However, the CTS and Iraqi Federal Police thrusts did have more success in their advances from the southern approaches into the city.

It should be noted that the ISF’s advance was marked by high levels of destruction and associated casualties. Among the ISF troops engaged, the Iraqi Federal Police and ERD, which both report to the Iraqi Ministry of the Interior, appear to have been particularly problematic in this regard. It was not uncommon for Iraqi Federal Police units to unleash up to 15-minute barrages of rockets and mortars (upward of 400 rounds) into Mosul without

**FIGURE 7.6**

ISF Advance into West Mosul

![ISF Advance into West Mosul](source: Kogon, 2017)
offering advanced notice to advising U.S. forces. Comparing their less discriminate use of fires with the CTS, David Witty writes:

The Federal Police and ERD treated west Mosul as a competition to prove they could liberate as many neighborhoods as possible. In doing so, they used reckless methods and initiated haphazard long-range artillery, mortar, and rocket bombardments into neighborhoods to facilitate their advance, inflicting unnecessary civilian casualties. These were area-fire artillery capabilities that the CTS did not possess, and Mosul residents moved away from zones in Federal Police advance routes and into CTS areas.

Map #4 shows the significant advance of all of the attacking ISF divisions by May. This marked improvement is attributable to several factors. First, the coalition’s campaign to hammer ISIS’s industrial base in West Mosul mitigated the group’s ability to produce SVBIEDs, IEDs, attack drones, and other weapons. Second, improved coordination among ISF commanders enabled them to attack simultaneously along multiple approaches. A third factor was the increased cooperation between U.S. Army advisory teams and ISF forward commanders leading the direct fire fight against ISIS. U.S. advisers were allowed to operate closer to the front lines.

Having U.S Army advisory teams deployed forward allowed them to bring in CF ISR and strike assets more quickly and efficiently against ISIS fighters in the close fight. By June 5, as shown in Map #5, the ISF had cornered the remaining ISIS fighters into a shrinking bastion within the Old City. With no escape and blocked by the Tigris River, ISIS militants dug in and prepared for a brutal final month of combat.

During the course of the fighting in West Mosul, ISIS attack drones had been highly effective against ISF senior command posts, creating a demoralizing effect on ISF leadership. At one point, a senior Iraqi commander in the

28 U.S. Army field-grade officer, interview with authors, June 23, 2020. The same interviewee would note that the Iraqi Federal Police were not hesitant to advance, and not always by U.S. tactics: “They usually led the advance with a bulldozer, whose driver usually got killed. They took a ton of casualties this way.”

29 Witty, 2018, p. 34.

Iraqi 9th Armored DIV pointed out to his U.S. Army advisers that ISIS “now has an air force” and asked them, “what are you going to do about it?” The accompanying U.S. Army advisory teams started to deploy the German-made Anti-Unmanned Aerial Vehicle Defense System (AUDS). The Army advisers added mobility to the system by placing it on the back of U.S. Army 2.5-ton supply trucks. The AUDS system quickly proved effective against ISIS attack drones. Soon after the deployment of AUDS, ISF commanders proclaimed that “the day the drones were stopped” had finally arrived.31

In addition to ISIS attack drones, there are other types of ISIS counterattack weapons, such as ISIS SVBIEDs. A small tractor has makeshift armor plating attached to its exterior. The armor plating protects the SVBIED drivers, rendering them impervious to small arms fire. One U.S. Army adviser attached to the Iraqi 9th Armored DIV—which attacked in a southwesterly direction—noted that ISIS often deployed its own armored bulldozers ahead of the SVBIEDS (sometimes five SVBIEDs at one time) to clear ISF obstacles in the path of the SVBIEDs.32

For this reason, the ISF usually positioned a tank among their lead attacking elements; the main gun was effective for quickly dispatching the SVBIED threats. Other preferred methods for neutralizing SVBIEDs were U.S. Army attack aviation and, occasionally, Iraqi rotary-wing aviation. The second image (on the right side) shows the innovative measures that ISIS pursued in its defensive tactics. It depicts the turret of a T-55 tank placed inside a covered container, which itself was placed on the back of a truck. With this kind of weapon system, ISIS could park the vehicle in an alley perpendicular to ISF’s attack and then engage ISF tanks or bulldozers with the tank main gun as they passed. On account of this type of threat, the ISF almost always placed an armored bulldozer with their most-forward combat


32 U.S. Army field-grade officer, interview with Mosul Study Group, 2017, transcript provided to RAND.
elements to quickly build berms on the types of side streets suitable for the placement of this weapon.

ISIS’s use of urban combat tactics made heavy armor critical to the ISF’s leading penetration forces. Observing a column of ISF armor from the Iraqi 9th Armored DIV moving to support forward attacking elements, a U.S. Army battalion commander and adviser to the Iraqi 9th Armored DIV commented on the irony of seeing Russian and American weapons lined up together:

[It was a] . . . tank column of M1A1s, T-72s, T-60s, BMPs, just a mix-match of all different types of mechanized capability and armor, which—I thought I would . . . never see M1s and T-72s in the same column driving the same direction, guns oriented the same way, and so it was a very unique situation to see that.33

In line with the 19th-century Prussian General Helmuth von Moltke’s remark that “no plan survives first contact with the enemy,” the ISF encountered difficulty almost immediately into operations. When the ISF divisions crossed their respective lines of departure in the final phase to clear West Mosul of ISIS on February 19, 2017, their scheme of maneuver quickly fell apart. Instead of executing multiple, simultaneous attacks from several directions, the Iraqi units progressed at varying rates just as they had during the East Mosul campaign. This desynchronization consequently exposed certain advancing divisions to ISIS flank attacks. The terrain in West Mosul presented unique challenges for the ISF. The outer southern crust of West Mosul proved to be very challenging urban terrain for CTS, causing it to shift its line of attack to a more easterly direction toward the Old City. Additionally, ISIS’s successful quadcopter drone attacks against ISF command posts slowed and disjointed the ISF advance.34


34 U.S. Army field-grade officer, interview with authors, July 2, 2020; Kogon, 2017; Susannah George, “Casualties Mount as Iraqi Troops Advance in IS-Held Mosul,” Asso-
ISIS modified its defensive scheme for West Mosul using its East Mosul experiences fighting ISF troops supported by coalition advisers and firepower. During the eastern campaign, ISIS dug extensive tank and vehicle ditches around the city and littered roads and open areas with IEDs and booby traps, but coalition airpower and fires quickly disarmed these obstacles, leading ISIS to change its tactics for the defense of the outer urban edge of West Mosul. Adapting to coalition firepower, ISIS instead focused its defenses on clusters of urban pockets on the outer edge of West Mosul; these clusters aligned with the major access routes leading into and out of the city. And unlike East Mosul, from which ISIS could retreat across the Tigris by bridge or boat, there was only one final fallback position for ISIS in the West: the Old City. As a result, there would be not be a “relief valve option” to facilitate ISIS’s withdrawal until very late in the operation. In West Mosul, the fight would invariably lead to a last-stand, all-in defense by ISIS in the Old City. In some ways, this favored ISIS. In West Mosul, ISIS maintained its industrial base. This base consisted of several areas used to store munitions, develop SVBIEDs, and modify drones for attack or reconnaissance missions. West Mosul, as stated earlier, was also home to the most-radicalized Sunni core members of the opposition to Iraq’s Shi’a-led government.35

For its tactical defense of West Mosul, ISIS constructed a series of heavily fortified buildings as urban strongpoints in sequence from the outskirts of west Mosul back toward the Old City itself. In West Mosul, the density of the buildings presented ISIS with excellent positions from which to defend, leaving the ISF with few options for bypassing them. Figure 7.7 shows ISIS’s defensive scheme for West Mosul. The red concentric arcs show ISIS’s gen-

eral defensive lines and orientation. The solid black line depicts the general edge of the Old City. The progressive thinness of the lines represents ISIS falling back into subsequent positions. The colored arrows indicate the direction of ISF attacks. Note that the CTS adjusted to an eastward attack direction after it met heavy resistance by ISIS while attacking in a northerly direction. Lastly, the circled “X” near the river in the northwest part of the Old City indicates the exit point through which ISIS leaders—and some of their families—escaped from Mosul.36

In addition to ISIS’s formidable in-depth defenses, the urban terrain in the Old City greatly complicated ISF maneuver efforts in the final months of the fight for Mosul. All ISF combat divisions preferred to move against ISIS positions in Mosul on fairly wide urban streets and avenues. The Iraqis preferred wide avenues of approach so that they could deploy a tank in a leading position, flanked by either an armored bulldozer or a mounted EOD team. Employing an inverted V-shaped formation, all three elements could pass each other as needed in reaction to any ISIS defenses they encountered. The problem, however, was that the streets of West Mosul became considerably narrower and increasingly twisted toward the center of the Old City. Thus, the three ISF combat elements had to advance more or less single-file, unable to pass each other when necessary. Added to this maze of winding narrow streets were side alleys; these pathways were just wide enough for ISIS to conceal SVBIEDs, and it did so to great effect, deploying them against the flanks of leading ISF units when the opportunity arose.37 To assist in countering ISIS’s tactics in the final push to seize the Old City, one U.S. Army battalion commander and adviser to the Iraqi CTS used the Weapons Company from his infantry battalion to assist CTS ground maneuver in close combat against ISIS. The most-effective weapon systems from this company were tube-launched, optically tracked, wire-guided (TOW) missiles


FIGURE 7.7
ISIS's Defensive Scheme for West Mosul

mounted on trucks. If the ISF came on an ISIS counterattack system, such as those already described, and if there was a long enough line of fire (for example, along a road or alley or across an open field), the adviser’s TOW missile would be brought up to eliminate the ISIS system, thereby enabling the CTS to continue its attack.38

In the final assault to clear ISIS’s last 40m-by-40m position, ISF maneuvers often devolved to an extremely narrow front of only a handful of meters. Figure 7.8 displays two maps and an image taken in West Mosul. The left map depicts the five axes of advance on West Mosul and specifically marks the two Iraqi Federal Police axes with a green dot. The right map shows a closer view of the Iraqi Federal Police axis of attack, again designated with a green dot. The picture on the right presents a clear visual of the effects of the fighting during the final weeks of the operation. The image is what remains of a major supply route, essentially the size of a foot trail, serving as the only access to forward ISF troops for resupply and to evacuate the wounded. As described already, these final assaults were executed by ISF infantry paired with overwhelming amounts of ISF and coalition firepower to reduce the last ISIS strongholds to rubble. It is a clear reflection of the tactical approach by ISF to identify ISIS defenders in dilapidated buildings and then immediately call on large amounts of coalition firepower, especially U.S. Army surface fires.

The three maps in Figure 7.9 show how the ISF closed in on the remaining ISIS defenders in Mosul between June 5 and July 4, 2017. As the ISF progressed deeper into the Old City, the width of the streets dramatically decreased, essentially becoming urban spider trails. Within these narrow confines, the fight to uproot ISIS’s last-ditch positions generally followed a common sequence. First, Iraqi Federal Police infantry advanced into a building suspected of sheltering ISIS militants. They then punctured or destroyed walls to gain better awareness of ISIS’s position. This was generally done with sledgehammers. Once fire was drawn from ISIS fighters—sometimes with accompanying casualties—the Iraqi Federal Police infantry would withdraw, enabling U.S. Army surface fires (and, at times, ISF

38 U.S. Army field-grade officer, interview with authors, July 2, 2020.
By early July, the final eviction of ISIS from West Mosul was nearly complete. ISIS senior leaders—still in the Old City at this point—took the opportunity to flee in the last few weeks of the battle through an “escape valve” gap along the river (Figure 7.9). To enable the escape, these ISIS leaders ordered a few hundred remaining ISIS fighters to fight to the last. The remaining ISIS fighters did just that, perishing in a final assault enabled by coalition strikes.40


Surface Fires, Advising, and Close Combat Attack

Here, we briefly cover the important functions critical to the Mosul fight: surface fires, advising, and CCA. Because the advising role became crucially linked to providing surface fires, we discuss these two functions jointly. Table 7.2 summarizes these key ground force contributions.

Surface Fires and Advising

The primary U.S. Army units that teamed up with ISF divisions in East Mosul were TF Strike, which consisted of the 2/101, commanded by then-COL Brett Sylvia. TF Strike assumed its mission from a brigade from the U.S. Army’s 10th Mountain DIV in May 2016, roughly six months prior to the Mosul operation. TF Strike’s higher headquarters was the Combined Forces Land Component Command, which was staffed by soldiers from the U.S. Army’s 101st Airborne DIV under MG Gary Volesky. For the assault on Mosul, COL Sylvia assigned his subordinate battalion TFs to advise and assist the ISF divisions in the following way. The brigade’s cavalry squadron, 1-75 Cav, was linked up with the Iraqi Federal Police DIV. To the east of the Iraqi Federal Police was the Iraqi 9th Armored DIV, which was advised by TF 1-67 Armor (a U.S. Army combined arms battalion assigned to 2/101 from Kuwait as part of Operation Spartan Shield). To their northeast was
the 2nd Brigade’s TF 2-101, advising and assisting the Iraqi CTS DIV attacking due west along Axis Aski Kalak. Rounding out the attacking forces was TF 1-502, teamed up with the IA 16th DIV moving along Axis Filfayl.\(^{41}\)

It is important to note that 2/101 and its subordinate battalions did not deploy with all their equipment or personnel.\(^{42}\) On average, battalions would generally deploy with half their overall strength of approximately 300 soldiers, although they would deploy with more in some cases. These battalions’ organizational structure and mission were notably different from what they would have been in an organic mission set in a combat environment. For example, a U.S. Army infantry battalion would typically fight its three infantry companies and weapons company as a coherent tactical formation against a known enemy—such as attacking an entrenched enemy company on top of a hill.\(^{43}\) But in the lead-up to and during the assault into Mosul, the U.S. Army battalions that deployed organized around their A&A mission,

\(^{41}\) U.S. Army field-grade officer, interview with authors, February 21, 2020; U.S. Army company-grade officer, interview with U.S. Mosul Study Group, 2017, transcript provided to RAND.

\(^{42}\) U.S. Army field-grade officer, interview with authors, June 8, 2020; U.S. Army field-grade officer, interview with authors, June 23, 2020.

\(^{43}\) U.S. Army field-grade officer, interview with authors, June 8, 2020.
which produced a very different organizational and mission construct, as we explain here in more detail.

In addition to the maneuver battalions from 2/101 that deployed, the brigade deployed a firing element from its organic artillery battalion, along with support personnel from the brigade. Additionally, there were other U.S. Army enablers deployed to Iraq but not organic to 2/101, such as AH-64 attack helicopters, engineers, and other types of enabling assets; these units often came from the Operation Spartan Shield forces rotating through Kuwait, which operates as a theater reserve. The composition of the deployment was tied to the force manning level for Iraq, which was 4,087 at the start of the East Mosul operation and was subsequently raised to 5,262 during the West Mosul operation.

The U.S. Army advisers assigned to these Iraqi combat divisions would prove to be participating in the “closest thing to combined arms maneuver the U.S. Army has done since the invasion” of Iraq in 2003, noted a U.S. Army operations officer for 2/101. Up to spring 2016, U.S. advisers could only advise from division headquarters. Secretary of Defense Carter announced additional accelerants in April 2016, including advising at lower echelons. 2/101 availed itself of this authority; for instance, it advised the contested wet gap crossing profiled in Chapter Six. With the exception of advising the CTS and Peshmerga forces, it was more common for U.S. Army advising at this time to take place at the division headquarters level.

These 2/101 A&A teams could monitor and help coordinate ISR assets and strike assets via the northern strike cell, but they had to do so many kilometers from the FLOT as their respective divisions relied on information passed back to them from the front. Equally important for these 2/101 A&A teams is that they lacked the targeting authority to authorize strike missions requested by their Iraqi divisions. Instead, the primary TEA operated from Erbil at CJOC-E, based at the international airport for the Kurdish regional capital. In contrast, the coalition SOF teams moving fur-

44 U.S. Army field-grade officer, interview with authors, June 8, 2020.
45 U.S. Army field-grade officer, interview with authors, November 12, 2019; U.S. Army company-grade officer, interview with authors, November 22, 2019; Carter, 2017b; Peters and Plagakis, 2019.
ther forward with the CTS not only were close to the tactical edge of the fighting—enabling them to collect more-timely information—they also had the authority at their team level to call fire strikes themselves. The 2/101 A&A teams lacked this authority prior to the East Mosul battle. Combined with the need to accompany the Iraqi units, the 2/101 BCT leaders believed that they needed authorities more akin to those followed by U.S. SOF, specifically with regard to SOF’s ability to authorize fires from the ground and point of action for the CTS.47

As the battle of East Mosul was unfolding in December 2016, a setback for the ISF precipitated a change in approach. As already described in detail, the 36th Brigade’s failed attempt to seize the Al-Salam hospital and its abandoning of tanks to an ISIS counterattack convinced CJTF-OIR leadership of the need for change and sparked numerous discussions on how to reinvigorate the stalled ISF assault into East Mosul. Had there been U.S. Army advisers closer to the front lines around the hospital, they might have had the ability to avert or at least mitigate the 36th being overrun. On December 22, 2016, Lieutenant General Townsend issued what became known as Tactical Directive #1.

This directive changed two fundamental aspects of conventional U.S. Army advising and enabling to that point. First, it allowed U.S. Army advisers to physically locate themselves with ISF corps, division, and brigade headquarters, thereby placing them much closer to the ground fight against ISIS—often only a few blocks behind the front lines. Specifically, advisers were allowed to go as far forward as the last cover and conceal position behind the FLOT. Second, and of equal importance, the new directive provided U.S. Army advisers the approval to call in surface fires and joint fires in their own right if a series of criteria—designed to reduce the risk of collateral damage—were met. TEA would no longer be confined to a brigadier general in Erbil; now, a U.S. Army colonel had the authority to approve or deny the call for fires depending on requests from ISF commanders directly involved in the

47 U.S. Army field-grade officer, interview with authors, February 21, 2020; U.S. Army field-grade officer, interview with authors, June 8, 2020; U.S. Army field-grade officer, interview with Mosul Study Group, 2017, transcript provided to RAND.
tactical fight. Then—U.S. Army MG Joseph Martin, commander of 1ID and the CJFLCC-I,\textsuperscript{48} recalled that Tactical Directive #1

empowered the ground force commander and released some unrealized [U.S. Army and CF] advising potential. Under certain conditions, they had the ability to deliver joint coalition fires without having a 1-star approve the strike, as was the policy previously. \textsuperscript{49}

Tactical Directive #1 proved to be a significant milestone in the effort to advise, assist, and now accompany the ISF in their fight to eradicate ISIS in East Mosul and West Mosul. It would empower advisers to operate closer to the FLOT and provide greater input regarding the delivery of supporting fires. By establishing contact with ISIS in congested, restrictive urban terrain, the ISF induced ISIS to move, act, or otherwise expose itself to observation. Next, advisers colocated with ISF brigades, divisions, and corps—often just blocks behind the immediate front—received requests for fires from their supported ISF leaders and could act on these requests. Because the U.S. Army conventional A&A teams now had the authority to authorize strikes, the response time decreased substantially relative to previous phases of the battle. The main beneficiary of this change was a new Army brigade from the 82nd Airborne DIV, which relieved 2/101 as the Mosul fight was transitioning from the east to the west side of the city.

There were early indications that Tactical Directive #1 produced noticeable and immediate effects in the fight. For example, in late December, a U.S. Army adviser team supporting the ISF’s ERD positioned itself inside the ERD’s forward command post, only a few blocks from the front edge of the fighting. The advisory team consisted of a company commander, fire support officer, and JTAC, all of whom sat inside the ERD’s Tactical Operations Center. From this center, the Army advisers monitored UAS feeds and communicated with higher U.S. headquarters units through secure communications equipment. With these capabilities and in collaboration with

\textsuperscript{48} 1ID had assumed CJFLCC-I command on November 17 from the 101st Airborne DIV.

ERD leaders, the advisory team coordinated a coalition strike against the ISIS fighters while avoiding friendly fire.\textsuperscript{50}

Figure 7.10 depicts the change in U.S. Army A&A capabilities triggered by Tactical Directive #1. With this change, A&A teams could now accompany IA and Iraqi Federal Police divisions as forward as brigades in close contact with ISIS. The figure portraiture a U.S. company-level advisory team joined to a forward IA brigade from the Iraqi 9th Armored DIV; it depicts U.S. Army surface fires and coalition strike and ISR capabilities that the Army advisers could leverage in support of ISF maneuver efforts. In addition to these capabilities, these Army A&A teams were afforded the mobility to move freely in accordance with battlefield needs. The figure shows a U.S. Army infantry platoon that provides mobility as depicted by the armored vehicles and security provided by the platoon.

A second effect of Tactical Directive #1’s implementation was the reduction in the overall number of ISIS-launched counterattacks using SVBIEDs. With the ISF’s final push to clear east Mosul in late December and the first half of January, the total number of effective SVBIED attacks decreased by more than 80 percent. There were multiple reasons for this reduction. First, the coalition concentrated its efforts to destroy ISIS’s SVBIED production facilities, which were primarily located in West Mosul. Second, ISF tactics generally improved throughout the battle with regard to countering SVBIEDs. By using armor or antitank weapons, quickly building defensive berms after an ISIS attack, and summoning U.S. and Iraqi attack aviation, the ISF significantly reduced the effectiveness of SVBIEDs.\textsuperscript{51}

As a former battalion commander of the 2–508th Infantry of the 82nd Airborne DIV—paired with the Iraqi 9th Armored DIV in the East Mosul fight—noted of the directive:

\textsuperscript{50} Mike Giglio, “This Is How U.S. Ground Troops in Mosul Are Calling U.S. Airstrikes on ISIS,” BuzzFeed, November 19, 2016; U.S. Army field-grade officer, interview with U.S. Army Military History Institute, May 7, 2017, transcript provided to RAND; U.S. Army field-grade officer, interview with authors, November 12, 2019; Kogon, 2017.

FIGURE 7.10
Tactical Directive #1 in Practice During the Final Assault to Clear East Mosul

The one thing that was very powerful which changed the role of Advise & Assist more than anything else out here was Tactical Directive #1. TD#1 was the most critical document that changed the nature of the fight here . . . When we did our PDSS [predeployment reconnaissance] here months ago prior to arriving, every Coalition adviser was on major FOBs [the] or advising via telephone on operations that were hundreds of kilometers away . . . There’s a huge difference when you live with your partner and every night you’re Advising and Assisting and every night you’re seeing them as opposed to a phone call . . . What TD#1 did is it pulled a couple of layers back. It loosened up the requirements on Coalition to be so far away from the flagpole. It loosened up the requirements to limit movements forward towards the fight. It stripped all that away. It took away all the risk adversity and pushed us back out to the field, which is extremely important to advising. Two, it pushed the decision for lethal strikes down to the tactical level—down to the task force as well as the company adviser. Every adviser at every echelon now [had] the ability to take on strikes—to deliver lethal strikes off a platform onto a known or observed enemy position, whether observed by [U.S. forces] or by the Iraqi Army. I think that piece of paper is something we need before we leave country because it’s extremely powerful.52

This adviser went on to relay that Tactical Directive #1 generated another related, important effect. Now armed with the ability and authority to call in U.S. Army surface fires and air strikes responsively to support their maneuver units, ISF commanders between the brigade and corps levels were more willing to accept the counsel of their U.S. advisers with regard to planning and tactical maneuver. Prior to Tactical Directive #1, some ISF commanders paid little attention to what their advisers recommended. However, as the directive made clear the utility of responsive coalition fires and ISR, Iraqi commanders grew more accepting of the A&A teams’ operational planning and advice. One U.S. Army adviser recounted that after the impact of the

52 U.S. Army field-grade officer, interview with Mosul Study Group, 2017, transcript provided to RAND.
directive became evident, ISF commanders’ “tone now changed when we provided them our best advice.”

Noting the specific effect of Tactical Directive #1, the commander of a U.S. Army field artillery battalion in support of ISF maneuver in East Mosul observed that U.S. Army surface fires became more crucial in the fight against ISIS once the directive was issued. By allowing conventional U.S. Army advisers to accompany ISF commanders by pushing forward with them in the close fight, the responsiveness of U.S. Army surface fires improved ISF maneuver capability. As the weather turned progressively worse in December 2016, preventing coalition ISR and strike assets from flying at various times, U.S. Army surface fires became an in-demand all-weather alternative.

As the fight into the Old City of Mosul progressed into its final days in early July 2017, the importance of U.S. Army surface fires increased. For example, the CTS attacked the Old City on the left flank of the Iraqi Federal Police DIV. To assist the CTS in breaking through the heavily dug-in final positions of ISIS, a U.S. Army battalion commander adviser drew on not only U.S. Army surface fires provided by his brigade’s M577 howitzers but also the 120mm mortars organic to his battalion. Because of the high angle of mortar fire compared with howitzers, the 120mm became a preferred type of U.S Army surface fire in the dense urban terrain of Old City Mosul. Using these 120mm mortars, the battalion commander adviser designated firing positions for his mortars directly behind the CTS’s direction of attack. Placing the mortars in this kind of alignment meant that only a small sliver of airspace over Mosul would have to be shut down temporarily for the mortars to fire, thus keeping the rest of the airspace above West Mosul open to airborne assets.

U.S. Army howitzer fire—specifically, M577s from the 2nd Brigade, 82nd Airborne DIV—were important for the final push into West Mosul. The battalion commander of this field artillery battalion, LTC Daniel

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53 U.S. Army field-grade officer, interview with Mosul Study Group, 2017, transcript provided to RAND.
54 U. S. Army field-grade officer, interview with authors, February 18, 2020.
55 U.S. Army field-grade officer, interview with authors, July 2, 2020.
Gibson, recalled the ways in which his M577 firing battery, along with his organic counterartillery fire radars, contributed to this final push. As the Iraqi 9th Armored DIV hammered tough ISIS defenses in late June and early July, his battery at one point fired a “six-hour schedule of fires in support of the attack.” Schedule of fires means that they fired at targets according to the Iraqi 9th Armored DIV’s plan of attack for that day. This was a significant change from the early days in February and March in West Mosul, when U.S. Army surface fires would only be fired on specific targets that an observer (ISR, radar, or ground based) could see. Given the dense terrain of West Mosul and ISIS’s dug-in defenses, CJFLCC Commander MAJ GEN Joe Martin allowed for this kind of scheduled firing to occur to further assist ISF maneuver. As Lieutenant Colonel Gibson noted, this kind of U.S. Army surface artillery firing, in mass per planned targets, was not something it had done in two decades of COIN warfare in Iraq and Afghanistan. “I don’t know if there is an artillery battalion in the Army that has done that since OIF,” recalled Gibson.56

There was another important asset that contributed to U.S. Army surface fires that Gibson noted: a French 155mm CAESAR (Camion Équipé d’un Système d’Artillerie) howitzer battery. Both U.S. and French batteries would often work in either general or direct support of each other, with the interaction coordinated by Gibson as the fire support coordinator for his brigade commander and, ultimately, in support of ISF ground maneuver.57 For example, in one instance during the final assault on west Mosul, the French CAESAR battery maintained a wall of smoke 1.5 km wide for 45 minutes.58 In another instance, U.S. forces asked the French to fire smoke in a certain area to trick ISIS into thinking the Iraqis were about to attack there when, in actuality, the attack was occurring in a different place. This prompted ISIS to fire mortars at the locations where it suspected the Iraqis were massed. U.S. counterbattery radars then located the mortars, allowing U.S. fires


57 U.S. Army field-grade officer, interview with U.S. Army Military History Institute, Camp Swift Iraq, May 7, 2017, transcript provided to RAND.

to destroy them.\textsuperscript{59} The French used their guns, in coordination with U.S. Army surface fires, to crater roads as a way to block SVBIEDs during the final assaults into West Mosul.\textsuperscript{60}

The fight in Mosul was characterized by a saturation of targets, dense urban fighting, and the need for precision fires. Moreover, there was a close proximity of targets to the forward line of troops. This placed a premium on precision fires (guided munitions) delivered via high-angle attacks. Both Excalibur and GMLRS precision-guided munitions were regularly employed to avoid collateral damage.\textsuperscript{61} In most instances, HIMARS or M777 artillery were the platforms that delivered these munitions. Additionally, M1156 Precision Guidance kits, although lacking the range of Excalibur, were used to great effect for counterfire missions in the dense urban setting. In terms of range, lethality, and accuracy, the GMLRSs proved essential in the battle to retake Mosul. A U.S. Army commander described the arrival of HIMARS at Fire Base Bell and then Qayyarah Airfield West as a “game-changing turning point”—“We now could hit Mosul with ground fires.” By the end of 2016, U.S. forces had fired over 650 GMLRSs into downtown Mosul. Their accuracy was such that on only one occasion, the commander noted, did they miss a target by roughly 40m; the remainder obliterated their targets.\textsuperscript{62}

CCA

In addition to advising and surface fires, Army aviation was an important contributor to the battle for both East and West Mosul. The primary CAB engaged in the Mosul fight was the 4th Squadron, 6th Cavalry (4-6) regiment under the 16th CAB. This unit arrived in theater in November 2016 as the East Mosul operation was unfolding; its deployment lasted into summer 2017, when the liberation of West Mosul was completed. Although the organic brigade headquarters for 4-6 is the 16th CAB, brigade head-

\textsuperscript{59} Croquet, undated.

\textsuperscript{60} Croquet, undated.

\textsuperscript{61} Precision effects and time to target were roughly the same for both. See Mosul Study Group, 2017, pp. 16–18.

\textsuperscript{62} U.S. Army field-grade officer, interview with authors, July 21, 2020.
quarters for this deployment was a National Guard unit based in Kuwait.\textsuperscript{63} The 4-6’s troops (equivalent to companies) were split among multiple locations (including Taji and Erbil) in Iraq and Syria; troops also deployed to Afghanistan as part of Operation Resolute Support. Erbil, which became the squadron’s headquarters in Iraq, was the key location for 4-6’s participation in the liberation of East and West Mosul.

The main contribution that 4-6 provided to the fight was its AH-64 strikes against ISIS forces. Interviewees suggested that, during its deployment, this unit conducted more than 700 strikes in a six-month period just in support of operations in Iraq, of which Mosul was the main line of effort.\textsuperscript{64} Those strikes involved the firing of Hellfire missiles at ISIS targets. Although AH-64s can fire rockets and cannons, Hellfire missile strikes were preferred given their combination of range and precision. For this reason, the AH-64s only shot Hellfire missiles when operating within Mosul urban areas, reserving their 30mm cannons and Advanced Precision Kill rockets for more strikes away from population centers.\textsuperscript{65} The one drawback was that this quickly ran down the supply of Hellfire missiles and meant that the unit was employing high-cost munitions against targets of differing military value.

4-6 would typically operate in a two-ship formation, sending two AH-64s into the airspace around Mosul from their squadron headquarters in Erbil. Once they arrived on station, they would have approximately two and a half hours before needing to refuel. Because the squadron did not have sufficient numbers to keep AH-64s in the air 24 hours a day, 4-6 focused its time on station at the peak of the fighting hours, with most engagements occurring between dawn and noon.\textsuperscript{66} The AH-64s were the lowest aviation platform in the air stack (both ISR and strike aircraft were higher), but the AH-64’s altitude—typically between 6,000–7,000 feet—combined with standoff distance mitigated the threat of ISIS antiaircraft capabilities. The threat that

\textsuperscript{63} U.S. Army field-grade officer, interview with authors, November 12, 2019.

\textsuperscript{64} U.S. Army field-grade officer, interview with authors, December 5, 2019.

\textsuperscript{65} U.S. Army company-grade officer, interview with authors, December 2, 2019.

\textsuperscript{66} U.S. Army company-grade officer, interview with authors, December 2, 2019.
ISIS posed in this regard was relatively modest, believed to encompass an unknown number of MANPADS and antiaircraft artillery.\textsuperscript{67} The coalition had JTACs forward for most of the Mosul operation, so the AH-64 pilots would be in communication with a JTAC on the ground. In other environments, an AH-64 pilot can use his sensors to “self clear” strikes. However, given sensitivities around TEA, 4-6 was subject to the same clearance process detailed previously in this report. Except when firing in self-defense, its strikes were typically cleared though a TEA at CJOC-E, with the logic being that, although the strike cell in Erbil was remote from the fight, it nonetheless had both the greatest access to all the sensors and ISR feeds and the greatest situational awareness of the overall context of the battle at that given time.\textsuperscript{68} The fact that the AH-64s were operating in the same sectors over Mosul as fighter aircraft, bombers, and artillery strikes put a premium on deconfliction. The precise impact of the AH-64 strikes on the battlefield is challenging to assess. The fact that hundreds of Hellfire strikes were executed, including strikes “danger[ously] close” to ISF units in contact with ISIS forces, suggests this was an important capability. And the perspective of the pilots was that these strikes were one of the more lethal capabilities in the fight.

Conclusion for Mosul Case

After two and a half years under ISIS’s control, Mosul was finally retaken by Iraqi forces. It was the combination and effective integration of the three functions described in this chapter—advising, surface fires, and CCA—that represented critical U.S. ground force contributions to the fight. The key ingredient that allowed the effective combination of these functions was the issuing of Tactical Directive #1 in December 2016. This directive allowed for a much more robust forward presence of U.S. Army advisers very near the battle’s front lines. That forward presence was only half of the equation brought about by Tactical Directive #1. The second half was the authority given to these advisers by the directive to call in responsive ISR and fires

\textsuperscript{67} U.S. Army field-grade officer, interview with authors, November 12, 2019.

\textsuperscript{68} U.S. Army company-grade officer, interview with authors, November 22, 2019.
without having to go through the longer approval process that existed prior to the issuing of the directive.

Although the fall of Mosul signaled the imminent defeat of ISIS territorial control in Iraq, the victory was offset by the levels of destruction in the city. ISIS’s tactics inflicted some of that damage—either directly (through the use of fires, VBIEDs, and other explosives) or indirectly (by fighting in a way that required striking the buildings that troops were holed up in or risking even higher ISF casualties to clear these buildings room by room). But there was some indiscriminate use of fires by Iraqi forces, with indications that the Iraqi Federal Police and ERD were the severest offenders. DoD reported that 306 civilians were inadvertently killed in coalition strikes supporting the Mosul operation in 2017 alone.69 And independent groups have estimated the potential civilian casualties as five times higher than the DoD figure.70

The operation reinforced a pattern seen in earlier battles: Iraq depended on the CTS as the initial assault force to penetrate ISIS defenses. The CTS performed admirably in this role but did so at great physical risk to its personnel, including battalion commanders who led these advances and often died in them. Iraqi conventional army units contributed, but not with the same tactical proficiency, creating gaps in the advance that ISIS could exploit. Forces under the Ministry of the Interior or the PMF displayed commitment to the fight that at times approached that of the CTS, but these groups were much less professional in their approach and indiscriminate in their use of force, creating challenges for the ultimate stabilization of the city.


CHAPTER EIGHT

Conclusion

This report has traced the evolution of U.S. ground force contributions to OIR in Iraq between roughly fall 2015 and summer 2017, efforts conducted in line with the by, with, and through operational approach. This time frame covers the recapture of Ramadi, Fallujah, the territory around Mosul, and the Mosul urban center by Iraqi forces with U.S. and coalition support. By design, we elected to focus on these specific operations because they span the main geographical areas in Iraq where OIR transpired along the two primary river valleys (that is, the Euphrates and Tigris), and encompass the largest cities liberated in the campaign. These operations allowed us to treat the various phases of the fight, from the early recapture of Ramadi to the final retaking of Iraq’s second most-populous city, Mosul.

Implications

Concerning the by, with, and through operational approach, several important lessons and key takeaways emerge from the historical presentation that has preceded. Simply put, the by, with, and through approach largely worked, sparing U.S. casualties and quite possibly avoiding an anti-American insurgency while defeating the territorial caliphate.\(^1\) The specific operations were imperfect and costly to the civilian population

\(^1\) From August 2014 to July 2020, there were 96 U.S. military personnel killed and 231 wounded in action during OIR deployments. Of those killed, 21 deaths were during hostilities. U.S. Army personnel account for roughly half of deaths—whether counted as hostile or nonhostile—and roughly three-quarters of those wounded in action. See Defense Casualty Analysis System, “U.S. Military Casualties–Operation Inherent Resolve (OIR) Casualty Summary by Casualty Category,” July 16, 2020.
but also successful in achieving their objectives, with the ISF eventually prevailing in the four operations we profiled.

There are several reasons for these successes. First, the United States escalated its involvement and built up its ground force presence over time. At the start of our treatment (the battle to retake Ramadi), the U.S. official FML for Iraq was 3,550. By our final case (the culminating battle of Mosul), the force cap was up to 5,262. The largest contingent among U.S. forces was the U.S. Army A&A brigades that deployed for this mission. As conditions on the ground evolved, so did the manner and nature of U.S. ground force contributions. Early in the fight, a critical CJTF priority was the buildup of the ISF, making them capable of liberating ISIS-held territory. Accordingly, the overwhelming emphasis was on force generation. Many of the actual trainers were coalition members, but U.S. military personnel played a key role in establishing the overall T&E enterprise that included the expansion and rehabilitation of training facilities, apportionment of equipment to Iraqi units, and coordination with the Iraqi Ministry of Defense to cycle units through training. CJTF-OIR believed it needed to generate a dozen counterattack brigades for the task of liberating ISIS-held territory. Some of these brigades essentially had to be rebuilt from scratch; a few highly capable units, such as the CTS, were ready for combat early and were essential to the success of the campaign.

As this process played out and Iraq began to field more-capable units, the U.S. emphasis shifted. Advising, initially carried out at the division headquarters level, became more of an imperative as the ISF slowly began to translate their battle plans into operations, first in Ramadi, later in Fallujah, and then along the Tigris River Valley in anticipation of operations in Mosul. This advising came with the provision of enablers, such as ISR and medical support, with real-time drone feeds particularly sought after by ISF commanders. Although not directly related to U.S. ground force contributions, this was a period when the Iraqis were heavily reliant on coalition airpower, which softened the enemy’s defenses ahead of assaults and gave Iraqi land forces the confidence to advance.

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3 Volesky, 2016.
This sometimes slow but deliberate process was driven by several considerations. First, the ISF required time to gain proficiency in combined arms operations, which featured large ground maneuvers supported by air strikes and Army aviation—a very different mission from the COIN fight they were trained for in the mid- and late 2000s. Second, as an interviewee noted, “the wolf was at the door,” meaning that ISIS was at the gates of Baghdad. Not surprisingly, Iraq’s political leadership preferred a conservative approach of defending the capital and pushing the front lines away before embarking on operations against ISIS territory farther afield. Operational timelines were therefore forced to be flexible. And third, U.S. political and military leadership wanted Iraq to “own” the fight against ISIS under the logic that a victory would only be sustainable if it was largely achieved by Iraqi government forces themselves. All of these factors contributed to the slow pace of early operations against ISIS.

The slow start proved frustrating and generated pushback from journalists and outside analysts who began to doubt whether the strategy was sufficient to defeat the caliphate. Critics and some military personnel involved in OIR still argue that delays did lead to additional civilian harm as ISIS continued to brutalize the population under its rule. That said, there were two important advantages to the slow build. Chief among them was the learning and relationship-building that occurred during the buildup to the culminating battles. Although U.S. Army commanders at times pressed the ISF to accelerate operations, the more moderate pace of the battle flow served the interest of A&A teams on the ground. It afforded them time to establish key relationships with partner units, learn who the power brokers were on the ground, appreciate (at least partially) political dynamics, and anticipate how to solve problems that would inevitably arise. This proved especially critical during the early stages of the Mosul fight, when the initial emphasis was on developing basing infrastructure (specifically, an intermediate staging base, a fire base, and several artillery positions and tactical assem-


bly areas). It was a slow progression, but, by the time it was complete, U.S. advisers enjoyed deeper relationships with their counterparts, had brokered an Arab-Kurdish compromise on staging Iraqi federal forces in a Kurdish-held area, and had jointly mitigated some of the capabilities (principally VBIEDs) that ISIS employed to attrit the ISF and erode their will to fight.

Although appreciating the overall success of the campaign, it is important for analysts to keep in mind the many advantages the coalition and the Iraqi government enjoyed in this particular fight. Many U.S. ground force personnel deployed to Iraq for OIR had deployed to the country previously—often more than once—between 2003 and 2011. The value of that knowledge and previous in-country experience would be difficult to overstate. It afforded U.S. commanders and personnel an important baseline knowledge of the country to which they deployed. If they did not fully comprehend the tense internal political dynamics within Iraq, they at least appreciated the situation. Many had helped build the very IA they were now supporting. Ironically, as U.S. personnel conveyed to us, previous deployments to Iraq translated into better working relationships with their Iraqi counterparts, who respected the experience. The perverse interaction of having “shot at someone, been shot at by them, and then later working together,” as was the case during the initial invasion of Iraq in 2003, proved strangely fertile ground for building trust and relationships.7

A second advantage was that the previous U.S. investment in Iraq produced at least pockets of competence within the ISF. Although the conventional IA’s collapse at Mosul in 2014 is infamous, there were still relatively high-performing units that could be drawn on. Prior U.S. engagement meant that the IA was fielding some U.S. equipment, such as M1A1 Abrams tanks. This is far different from the situation likely to ensue after the removal or collapse of a regime, when an international coalition may lack a local security partner of even rudimentary capability.

Third, U.S. advisers on the ground had the capability to deliver lethal effects in support of the Iraqis. Beginning in early 2016, U.S. ground forces escalated the level of kinetic enablers provided to the Iraqis. These “accelerants” involved the introduction of offensive strikes from AH-64s and addi-

7 U.S. Army field-grade officer, interview with authors, June 4, 2020.
tional surface fires, such as long-range HIMARS. The lethality of these enablers was similarly enhanced by U.S. advising of the Iraqis at lower echelons. These factors increased the pressure on ISIS and afforded U.S. advisers influence, including a degree of leverage, with their Iraqi counterparts. As noted by a U.S. Army adviser, “From the beginning, coalition fires served as currency in the transactional relationship between Coalition forces and ISF.”

That transactional relationship between coalition forces provided a side benefit for the U.S. Army formations that deployed to OIR with the experience in performing combat functions that they were generally not able to conduct in OIF. The delivery of lethal effects, for example, provided a benefit besides that of defeating ISIS: Many of those who deployed were employing the specific competencies that they had been trained on. Artillerymen were firing artillery. Apache pilots were providing CCA. And the real-world experience afforded them opportunities, such as firing Excalibur rounds, for which home-base training opportunities are limited. Although this outcome might seem commonplace, it stands in marked contrast to the COIN deployments of the mid 2000s, in which some of those who deployed were carrying out missions outside their core competencies, effectively degrading readiness. In OIR, there was likely a boost to readiness in terms of proficiency—albeit with such units as field artillery regiments needing rest and refit after the deployment.

Collectively, these advantages help explain the success of the mission that led to the territorial defeat of ISIS in Iraq in roughly three years of fighting. This success notwithstanding, it is important to temper optimistic reads of the outcome and consider overly positive appraisals of the ISF and their ability to withstand future security challenges. Although the ISF prevailed in the battle of Ramadi and most of the ones that followed (and in all major engagements involving the liberation of significant population centers), they did so with overwhelming numerical superiority. In the three operations we profiled that are discrete enough to identify a rough correlation of forces, the ISF enjoyed numerical superiority of between 9:1 and 20:1. (See Table 8.1.)

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ISIS was able to offset that advantage by waging these battles in dense urban environments. This limited how the ISF could employ their personnel and increased ISIS’s ability to create defensive obstacles and employ IEDs of varying types to attrit the ISF and slow their advance. But the fact that the ISF eventually prevailed in these encounters should not be surprising. The ISF had much more combat power, fielded superior equipment, and were supported by coalition enablers. This was a fortuitous position, to say the least. And yet, the ISF were able to territorially defeat ISIS in Iraq only after three years of fighting and at the cost of significant casualties, including among their most elite CTS forces. Consequently, the success of the campaign should be qualified.

A second reason to qualify the success of OIR concerns the political front. The Iraqis have not achieved the type of national reconciliation among their different identity groups that would make the return of an insurgency significantly less likely. As before ISIS’s emergence, there is some degree of power-sharing and minority protections, but the state remains a Shi’a-dominated order. Moreover, one of the constituencies most empowered by the war was the militias—Popular Mobilization Units—that can be the most hostile to genuine Sunni-Arab inclusion. And whatever consensus had emerged among the country’s Shi’a leadership during the war has been subsequently jeopardized by popular discontent with the political elite, which spilled into the streets in the form of a major protest movement that erupted in fall 2019.

Third, U.S. support to Iraq to secure the enduring defeat of ISIS transpired (and continues to transpire) within an increasingly complicated prism of U.S.-Iranian competition within the country for influence, particularly after the 2020 U.S. strike that killed Islamic Revolutionary Guard Corps Quds Force Commander Qassem Soleimani. The implications are manifold; for the purposes of this report, the most important upshot is that U.S. forces were able to maintain a significant presence and influence in the region.

<table>
<thead>
<tr>
<th>Operation</th>
<th>Size of ISF Contingent</th>
<th>Number of ISIS Fighters</th>
<th>Correlation of Forces</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ramadi</td>
<td>10,000</td>
<td>600–1,000</td>
<td>17:1–10:1</td>
</tr>
<tr>
<td>Fallujah</td>
<td>30,000</td>
<td>3,500</td>
<td>9:1</td>
</tr>
<tr>
<td>Mosul</td>
<td>100,000</td>
<td>5,000</td>
<td>20:1</td>
</tr>
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efforts in Iraq are split between sometimes-competing goals: maintaining pressure on ISIS and containing Iranian influence in Iraq. This dynamic means that a sovereignty-sensitive Baghdad could consider limitations on U.S. military activities or risk a confrontation with pro-Iranian factions that do not accept U.S. freedom of maneuver within the country.

Can These Lessons Be Applied to Military Doctrine?

We began this report with a historical examination of by, with, and through as a component of military doctrine. The expression, now commonplace, has been employed in prior U.S. military doctrine—first in UW doctrine and later in joint doctrine on SFA and SC. Today, and explicitly in the history we have presented here, the term has been used to describe an operational approach or concept. The debate that lingers, especially in light of the success of OIR, is whether by, with, and through should be more formalized as a doctrine in itself; that is, does there need to be such a doctrine, or might this somehow inhibit the flexibility of the approach? What does OIR suggest for this debate?

Before we address these questions, it is useful to reproduce the definition or interpretation of *by, with, and through*, as used by former CENTCOM Commander Joseph L. Votel. First, *by* signifies that operations are led by foreign state or nonstate partners who dictate the pace, establish strategic parameters, and maintain ownership of operations. Second, foreign partners operate “*with* enabling support from the United States or U.S. led coalitions,” ranging from SOF operational advisers to joint force resources, such as fire, intelligence, and sustainment. Third, these activities are conducted “*through* U.S. authorities and partner agreements.”9 This last preposition implies that U.S. forces derive their right to operate and deploy via traditional U.S. authorities coupled with partner agreements. According to this interpretation, partnering forces and nations have to officially solicit a U.S. military presence.

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9 Votel and Keravuori, 2018, p. 40 (emphasis original).
The Iraqi experience of by, with, and through offers arguments both for and against developing the concept into a more formal doctrine. Several points are worth highlighting in support. OIR in Iraq and the U.S. and coalition efforts to support and work with the ISF should largely be seen as a success or win for the concept. ISIS was defeated. The Iraqis accepted and exerted full responsibility for developing the operational plans to recapture their country. They created a timeline of their own to execute their plan. U.S. and coalition partners influenced and tweaked both of these, but they did so at the margins; OIR was an Iraqi-designed and Iraqi-driven campaign from planning to execution. Perhaps most importantly, the Iraqis shouldered the lion’s share of the risk in execution and paid a heavy cost in ISF casualties. They often did not clear buildings or conduct maneuver operations in accordance with U.S. military doctrine, procedures, and rules of engagement. As one former U.S. commander commented, “What we thought the Iraqis should do and what the Iraqis thought the Iraqis should do was often in conflict.” But ultimately, the Iraqis brought the fight to ISIS and recaptured their country according to their own plan and timeline. U.S. soldiers and marines made these points to us time and time again.

This underscores another key positive attribute of by, with, and through in Iraq. Although not a cheap endeavor by any accounting, it was less expensive to the United States precisely because it was conducted by the Iraqis and not the U.S. military. A unilateral U.S. effort, although likely politically infeasible, would have meant more loss of American soldiers and marines and a higher operational price tag. The approach taken necessitated significantly less by way of domestic and political support.

To be clear, OIR in Iraq demanded significant resources from the U.S. military. This type of operational approach is not inexpensive or significantly less resource-intensive than employing U.S. forces in direct combat roles. A large part of the cost of OIR in Iraq was on munitions expenditures and on a variety of enablers, such as airpower, artillery, ISR, cyber, and sustainment. Collaborative efforts of this nature require significant resources both to provide partners with the operational advantage they seek and to

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10 U.S. Army field-grade officer, interview with authors, July 21, 2020.
sustain operations to conflict termination. Importantly, though, the “by, with, and, through” approach buys down risk to U.S. forces. This reduces the cost in lives to U.S. troops.

The OIR experience in Iraq reveals the nimbleness and flexibility of the by, with, and through process. Part of the appeal of the approach is that it is situationally dependent. Commanders were entrusted with a high degree of responsibility to adapt to and learn from the exigencies that their partners faced and to understand their partners’ limitations while being candid about their own. Divergences certainly emerged—for instance, related to collateral damage, clearance methods, and rules of engagement—but none proved insurmountable. Furthermore, commanders were allowed to develop the relationships that could foster accountability and enable the free flow of information between U.S. and partner forces. This largely transpired in Iraq and permitted U.S. forces to, when necessary, change directions in response to decisions made by the Iraqi government or to engagement opportunities that arose. This kind of agility was an essential component for the largely successful outcome in Iraq.

There certainly is no one-size-fits-all model of the by, with, and through approach. This very aspect of uniqueness in applying the concept has implications that could work against or greatly complicate formalizing a more rigorous doctrine. Joint military doctrine is, by design and intent, meant to be specific. It is crafted to offer fundamental principles guiding the employment of U.S. military forces in coordinated and integrated action toward a common objective. Furthermore, doctrine should promote a common perspective for planning, training, and conducting military operations. It is to provide “distilled insights and wisdom” attained from the employment of military force.

Questions naturally emerge from these observations on doctrine in relation to OIR. Have the fundamental principles associated with by, with, and, through been sufficiently refined to formalize a workable joint doctrine? Is there a common perspective on the approach adequate for planning, training, and conducting military operations across the services? These questions must be answered in the affirmative if by, with, and, through is to receive status

11 Votel and Keravuori, 2018, p. 42.
as a formal doctrine. Many of the adjectives often employed to characterize the approach—agile, nimble, flexible, responsive, unique—may portend difficulty for professionalizing or “doctrinizing” the approach moving forward. Adding rigor to the concept’s basic precepts is in no way straightforward.

It bears mentioning that the concept might not yet be sufficiently broadly applicable to merit or justify a serious consideration of its DOTMLPF development across the joint force. The respective burdens and investments that the services would be expected to undertake in support of such a move would be substantial. The services already absorb significant costs in their training base and force structure. To develop the by, with, and, through capability even more would pose additional costs. As has been pointed out elsewhere, the combatant commands would inevitably have to share in this burden and greatly inform the process in terms of theater needs and other specifics.\(^\text{13}\)

The OIR experience in Iraq certainly proved that the concept can bear fruit under the right conditions. However, there are reasons to be cautious regarding future applications. The approach places emphasis on local partners’ willingness—which could involve military, paramilitary, nonstate armed, and government entities—to lead and own the battlespace by contributing maneuver forces, directing the pace and direction of a campaign, and requesting support—such as U.S. advising, airpower, intelligence, and embedded SOF—as needed. Future partners might not express similar willingness or possess the capacity to take on operational burdens. Moreover, there are many partners that the United States might be unwilling to support for political or moral reasons despite the potential for military gains.

Furthermore, the interpretation of the by, with, and through operational approach as it was applied in OIR diverges from the SOF community’s traditional use of it. In particular, the SOF interpretation of \textit{with} to imply “working, eating, sleeping, and living, side by side . . . with those we are helping” and shouldering “equitable ownership of problem sets and equal involvement in execution of solutions” differs from the OIR relationship in which indigenous partners shouldered the majority of the burden.\(^\text{14}\) SOF was a

\(^{13}\) Votel, 2018, p. 34.

\(^{14}\) Dalphonse, Townsend, and Weaver, 2018.
critical component to OIR operations in Iraq. Doctrinally, these differences would need to be sorted out to establish a joint consensus on the term.

Although advocates of the concept’s applicability cite recent U.S. and North Atlantic Treaty Organization CT and stabilization campaigns in Yemen, Mali, Afghanistan, Syria, and Iraq as evidence that a by, with, and through operational approach can guide operations across a variety of conflicts, the concept nonetheless remains most closely associated with efforts to counter violent extremism. Precisely which missions, activities, and tasks compose a by, with, and through operation, however, remains unclear. CENTCOM, AFRICOM, and SOCOM operations suggest common practices, but there is a dearth of specific guidance on how these activities are to be ordered, integrated, and resourced. How, for instance, should conventional and SOF contributions to a by, with, and through campaign be integrated? Should the United States provide assistance and advising at the tactical, operational, and/or strategic level?\textsuperscript{15} As noted, proponents emphasize the approach’s malleability, arguing that it provides an “agile and tailorable concept” that commanders may apply as their situation requires.\textsuperscript{16}

The OIR campaign encompassed both CT activities and combined maneuver operations. From an operational perspective, these are not insurmountable obstacles. From a doctrinal one, they may be more difficult to resolve. The issue will not be resolved easily or soon. OIR has demonstrated that by, with, and through works as an operational approach and has many virtues. Whether the concept merits a formal doctrine, however, remains an open question. To summarize the key implications and recommendations emerging from this study:

- There is no substitute for U.S. Army advisers being able to deliver kinetic effects beyond strictly advising. Delivering kinetic effects increases adviser influence and leverage.

\textsuperscript{15} Advocates of the by, with, and through approach have offered differing recommendations. In describing U.S. efforts during the early months of OIR, for instance, Chairman of the Joint Chiefs of Staff Martin E. Dempsey (2014) suggested that assistance would be limited to higher headquarters. Reflecting on CENTCOM’s application, however, Votel and Keravouri (2018, p. 41) recommend that a joint force should provide support and advise “from the tactical to ministerial levels.”

\textsuperscript{16} Votel and Keravuori, 2018, p. 41; Votel, 2018, p. 34.
• Improving the Army’s by, with, and through capacity will require substantial investments in training and manpower oriented toward the effort.
• OIR achieved its short-term objective but might not serve as a replicable blueprint for many future operations—particularly in places where the United States lacks deployment history.
• By, with, and through was a highly effective operational concept for OIR. However, the development of any future doctrine formalizing it should reflect insights from multiple cases.

Recommendations

• U.S military and political leadership should resist the temptation to default to a by, with, and through approach in future contingencies or to expect outcomes similar to those of OIR.
• U.S. land forces should prepare for combat even when called on to apply by, with, and through practices in future operations. The type of war-fighting these forces might be asked to do—CCA and delivery of surface fires—introduces less physical risk but is combat.
• Future by, with, and through endeavors should prioritize the generation of indigenous combat-ready forces and local ownership of the fight before introducing such “accelerants” as surface fires or advising at lower echelons.
• We do not recommend immediately elevating by, with, and through as a stand-alone mission or activity that warrants the DOTMLPF investments that would accompany such a move.
• Should U.S. military and political leadership wish to formalize the by, with, and through concept into doctrine, the Army will need to do the following:
  – socialize this development across the joint force, especially among the services and combatant commands.
  – harmonize any doctrinal differences in use and interpretation of the concept that currently exist within the conventional Army and among other communities, such as SOF.
Abbreviations

1ID 1st Infantry Division
2/101 2nd Brigade, 101st Airborne Division
4-6 4th Squadron, 6th Cavalry
A&A advise and assist
ACE aviation combat element
ADP Army Doctrine Publication
AFRICOM U.S. Africa Command
AOC Anbar Operations Command
ARCENT U.S. Army Central
ARNG Army National Guard
ASCC Army Service Component Command
BCT Brigade Combat Team
BEB Brigade Engineering Battalion
BOC Baghdad Operations Command
BPC build partner capacity
C2 command and control
CAB combat aviation brigade
CCA close combat attack
CE command element
CENTCOM U.S. Central Command
CF coalition force
CJFLCC Combined Joint Forces Land Component Command
CJFLCC-I Combined Joint Forces Land Component Command–Iraq
CJOC Combined Joint Operations Center
CJOC-E Combined Joint Operations Center–Erbil
CJSOTF Combined Joint Special Operations Task Force
CJTF Combined Joint Task Force
COIN counterinsurgency
COL Colonel
<table>
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<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CT</td>
<td>counterterrorism</td>
</tr>
<tr>
<td>CTS</td>
<td>Iraqi Counterterrorism Service</td>
</tr>
<tr>
<td>DA</td>
<td>direct action</td>
</tr>
<tr>
<td>DIV</td>
<td>Division</td>
</tr>
<tr>
<td>DoD</td>
<td>U.S. Department of Defense</td>
</tr>
<tr>
<td>DODD</td>
<td>Department of Defense Directive</td>
</tr>
<tr>
<td>DODI</td>
<td>Department of Defense Instruction</td>
</tr>
<tr>
<td>DOTMLPF</td>
<td>doctrine, organization, training, materiel, leadership and education, personnel, and facilities</td>
</tr>
<tr>
<td>EOD</td>
<td>explosive ordnance disposal</td>
</tr>
<tr>
<td>ERD</td>
<td>Emergency Response Division</td>
</tr>
<tr>
<td>FAB</td>
<td>field artillery brigade</td>
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<tr>
<td>FID</td>
<td>foreign internal defense</td>
</tr>
<tr>
<td>FLOT</td>
<td>forward line of own troops</td>
</tr>
<tr>
<td>FML</td>
<td>force management level</td>
</tr>
<tr>
<td>FMS</td>
<td>foreign military sales</td>
</tr>
<tr>
<td>FY</td>
<td>fiscal year</td>
</tr>
<tr>
<td>GCE</td>
<td>ground combat element</td>
</tr>
<tr>
<td>GLOC</td>
<td>ground line of communication</td>
</tr>
<tr>
<td>GMLRS</td>
<td>guided multiple-launch rocket system</td>
</tr>
<tr>
<td>HIMARS</td>
<td>high-mobility artillery rocket system</td>
</tr>
<tr>
<td>HMMWV</td>
<td>high-mobility multipurpose wheeled vehicle</td>
</tr>
<tr>
<td>HQ</td>
<td>headquarters</td>
</tr>
<tr>
<td>IA</td>
<td>Iraqi Army</td>
</tr>
<tr>
<td>IDP</td>
<td>internally displaced person</td>
</tr>
<tr>
<td>IED</td>
<td>improvised explosive device</td>
</tr>
<tr>
<td>ISF</td>
<td>Iraqi Security Forces</td>
</tr>
<tr>
<td>ISIL</td>
<td>Islamic State of Iraq and the Levant</td>
</tr>
<tr>
<td>ISIS</td>
<td>Islamic State of Iraq and Syria</td>
</tr>
<tr>
<td>ISR</td>
<td>intelligence, surveillance, and reconnaissance</td>
</tr>
<tr>
<td>JOC</td>
<td>Joint Operations Center</td>
</tr>
<tr>
<td>JP</td>
<td>Joint Publication</td>
</tr>
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</table>
Abbreviations

JTAC  joint terminal attack controller
KDP  Kurdistan Democratic Party
MAGTF  Marine Air-Ground Task Force
MANPADS  Man Portable Air Defense Systems
MEF  Marine Expeditionary Force
OIR  Operation Inherent Resolve
PGK  Precision-Guided Kit
PMF  Popular Mobilization Forces
PUK  Patriotic Union of Kurdistan
QRF  Quick Response Force
RPG  rocket-propelled grenade
SC  security cooperation
SF  Special Forces
SFA  security force assistance
SOCOM  U.S. Southern Command
SOF  Special Operations Forces
SPMAGTF  Special Purpose Marine Air-Ground Task Force
SPMAGTF-CR-CC  Special Purpose Marine Air-Ground Task Force–Crisis Response–Central Command
SR  special reconnaissance
SVBIED  suicide vehicle-borne improvised explosive devices
SVEST  suicide vest
T&E  train and equip
TAA  tactical assembly areas
TEA  target engagement authority
TF  task force
TFP  Task Force Panther
TQ  Al-Taqaddum
UAS  unmanned aerial systems
UW  unconventional warfare
VBIED  vehicle-borne improvised explosive device
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This report, which provides a narrative account of four battles within Operation Inherent Resolve (OIR) and a review of U.S. ground force contributions to those battles, is intended to serve as an operational history and review of warfighting functions as applied to OIR. Although OIR was both a Coalition fight and joint one, the report’s focus on U.S. ground forces is meant to address gaps both in analysis and in the common understanding of OIR.

This research was structured according to the operational concept of by, with, and through. This concept refers to the U.S. military’s reliance on local partners—either a host nation government or a local surrogate force—to prosecute ground fighting with U.S. support. That support typically encompasses U.S. advising and enablers and could involve U.S. forces accompanying the partner. Although the terminology is familiar to those working in national security, it has yet to be formalized in joint doctrine and there are inconsistencies in its usage. The authors trace the development of the concept and its application in OIR, then analyze how it might be better incorporated into military doctrine.

The authors detail four battles: the counterattacks on Ramadi and on Fallujah, setting the conditions for Mosul, and the urban fight in Mosul. The choice of these operations was made to ensure treatment of the Euphrates and Tigris river valleys where the Islamic State of Iraq and Syria was defeated in Iraq and to cover battles at different points in the overall campaign.