



The operation has become the benchmark for airpower in urban joint force warfare.

# The Fallujah Model

By Rebecca Grant

**C**OMMANDERS engaged in urban warfare long have regarded airpower as a blunt instrument. In battles from Stalingrad in the 1940s to Grozny in the mid-1990s, airpower's primary purpose was to turn buildings into rubble—and fast.

Such no longer is exclusively the case, however.

With more than 150,000 US soldiers and marines on the ground in Iraq and Afghanistan, the public focus understandably has been on land war. Yet behind the scenes, coalition air forces have been deeply involved in urban “stability” operations. In fact, the November 2004 sweep of the Iraqi town of Fallujah has become the benchmark for airpower in urban joint force warfare.

Fallujah marked the unveiling of an urban-warfare model based on persistent air surveillance, precision air strikes, and swift airlift support. Together, these factors took urban operations to a new and higher level.

When President Bush declared that



the major combat operations phase of Operation Iraqi Freedom was at an end on May 1, 2003, he was announcing the start of one of the most difficult and uncertain transitions in warfare: the switch from battle to stability operations.

The term “stability operations” was relatively new when Iraqi Freedom began on March 20, 2003. It was derived from an Army doctrine change in the mid-1990s. Operations in Panama and Bosnia convinced the Army that contending with conflict after a regime change would be an important part of future military missions.

Stability operations joined offensive operations, defensive operations, and support operations as major parts of combined-arms doctrine. Army planning put Phase IV, Stability Operations, right after Phase III, Decisive Combat Operations.

Phase IV Stability Operations in Iraq turned out to be a major test, one which created unprecedented de-



USMC photo by SSgt. Jonathan C. Knauth

mands on air and space forces as well as ground forces.

### Twitching Regime

OIF decapitated Saddam's regime but left some body parts strong—especially in the north. Baathists who dominated the government bureaucracies and army also had used Iraq as a source of personal wealth. A variety of insurgent groups sought to tip the political balance through violence aimed at the coalition and the interim Iraqi government.

It was, by definition, an urban battle—Iraq's 16 biggest cities held 70 percent of the country's population.

From the very start of Phase IV, the town of Fallujah—35 miles west of Baghdad—was a hotbed of revolt. Tribal loyalties, nationalism, and dislike of foreigners were strong. These political features led to friction with coalition forces soon after they occupied the city in late April 2003.

In Fallujah, the “insurgency” com-

prised not only hard-line Baathists but also foreign jihadists such as the Jordanian-born terrorist leader, Abu Musab al-Zarqawi.

It was not until March 31, 2004, however, that Fallujah became notorious as the focal point of the insurgency. On that day, Iraqi gunmen ambushed and killed four American contract workers, whose bodies were subsequently burned, mutilated, dragged through the streets, and hanged from a bridge. Later that same day, five soldiers were killed by a roadside blast a few miles north of the city. In US Central Command's judgment, the killings demanded a response.

Fallujah was located in the easternmost region of the Marine Corps sector of Iraq, and thus responsibility for taking action fell to the I Marine Expeditionary Force commander, Lt. Gen. James T. Conway. He was ordered to attack on April 4.

Operation Vigilant Resolve featured 1,300 marines from I MEF,

along with some Iraqi participants. The marines surrounded the city, and then teams made forays into it in an attempt to locate those responsible for the slayings and draw out other insurgents.

From the start, the hunt for the ringleaders featured airpower. Air Force AC-130 gunships targeted specific sites, and marines called in precision air strikes against buildings harboring terrorists or Sunni insurgents. “I never thought I'd be calling for mortars and air strikes and all that,” Marine Corps 2nd Lt. Joshua Jamison, who was among the first to go in, told the *North County (Calif.) Times*.

After a few days, however, US Central Command commanders halted the operation. They were responding to political pressure brought to bear by Iraq's interim governing council and to the problem of deaths of Fallujan civilians. Negotiations got under way. Iraqi forces were formed into the Fallujah Brigade, which was

to take control of the city while the marines remained outside.

This abortive April foray demonstrated an emerging set of goals for operations against insurgents in the urban environment. This was no pitched battle of army on army. The key to the strategy lay in isolating insurgent leaders and strong points inside the city.

### Manhunt

It was, in part, a manhunt. Secretary of Defense Donald H. Rumsfeld said marines were “systematically moving through the city, looking for targets that are identified, that they have photographs of,” and that “they know who they want and what they want and why they want that person.”

Even after coalition ground forces pulled back, air operations continued. Gen. Richard B. Myers, the Chairman of the Joint Chiefs of Staff, said AC-130 gunships and fixed-wing aircraft went on attacking targets. “There were a lot of enemy [fighters] that died there,” he said.

Still, Round 1 in Fallujah left questions about use of airpower in urban operations. In some cases, ground forces just wanted to use their own organic direct and indirect weapons, rather than airpower.

Making positive identification and a collateral damage estimate—both requirements for an air attack—were cumbersome. Command-

ers wanted to exhaust all other means before going through that process. Only if the time was right and it was necessary would they call in an AC-130 or a fixed-wing platform to drop precision guided munitions.

In Fallujah, the goal of coalition leaders was not so much the taking of the city as it was about altering conditions there. Gen. John P. Abizaid, the coalition commander, explained that there were “certain things we will not tolerate in Fallujah,” such as the presence of foreign terrorists.

“We insist that the heavy weapons come off the streets,” added Abizaid. “We want the marines to have freedom of maneuver in Fallujah, along with Iraqi security forces and Iraqi police.”

Through the summer and fall, the air component joined in what might be described as an ongoing hunt for prime insurgency targets in Fallujah and other cities.

Counterinsurgency efforts across Iraq relied heavily on persistent intelligence, surveillance, and reconnaissance from air and space platforms. Operation Enduring Freedom and Operation Iraqi Freedom had already proved the value of persistence. Now, for stability operations, the role of persistent surveillance was doubly important.

That is because the air component was not dealing with a battle roster of military targets such as Taliban

trench lines near Kabul or Republican Guards tanks in a field. Every target struck from the air in this stability operations phase had to be carefully developed and massaged, keeping recent intelligence and overall political goals in mind.

The result was a steady pace of air attacks, even though there were no US ground force attacks in Fallujah. Example: Sept. 13 air strikes targeted a suspected Zarqawi hideout in Fallujah. According to the Associated Press, there had been at least five series of air strikes over the previous week.

Turning to the air component in this way was a significant change in joint operations. A few years earlier, it would not have been possible.

### Since Kosovo

Take, for example, the pursuit of Serbian police and military forces in Kosovo during Operation Allied Force, which unfolded in 1999. Serb forces went house to house, killing ethnic Albanians. Some 600,000 were forced to flee to refugee camps across the border in Albania.

The only way to stop the ethnic cleansing was to go to the heart of dictator Slobodon Milosevic’s power base in Belgrade and to interdict his forces in the field. Eventually, it worked—after a 78-day air campaign. At the operational and tactical levels of war, however, airpower did little to stop the house-to-house terror.

The USAF Chief of Staff, Gen. Michael E. Ryan, summarized the situation this way: “There was never any delusion that airpower was capable of stopping door-to-door thuggery—at less than platoon level and squad level. ... You’re not going to stop that directly with airpower.”

Ryan likened attempts to do so to hitting “leaves and branches” instead of striking at the roots of a problem.

In Fallujah, however, the air component proved it could do quite a lot to target those engaged in door-to-door thuggery. The situation was different from Kosovo, in that enemy forces were fewer, but the combination of persistent ISR and on-call strike aircraft was nothing short of stunning.

Heading the list of star systems was the Predator UAV. Its full-motion video had proved its utility in

USA photo by Sgt. 1st Class Johancharles Van Boers



*Precise application of airpower was a hallmark of the Fallujah II campaign, which required close integration of ground and air forces. Here, an airman calls in air support, while another airman provides cover.*

Afghanistan and in the major combat operations phase in Iraq. However, the swiftness of the coalition's assault on Baghdad left Predator's urban operations talents largely untested—along with those of many other sensor and shooter platforms.

Round 2 in Fallujah, which unfolded in November 2004, was to show the full impact of the new sensor and shooter technology when integrated with other forces in joint operations.

For several weeks before the main assault, air strikes and artillery fire targeted key sites in the city as they were identified. The hunt for insurgents evolved into battlespace shaping.

Beginning in July 2004, the CAOC focused ISR coverage on building a picture of the insurgent network in Fallujah. Persistent ISR, ranging from imagery to electronic and signals intelligence was important, "particularly with a determined adversary" with a "low signature," said Lt. Col. John Johanson of the CAOC's ISR division. He said that constant ISR was required, lest "collection gaps create a collection bias" that could skew the overall assessment and characterization of the enemy network.

It culminated in August and September with a series of preplanned strikes that took out key insurgent targets—and did so with great precision. One such strike targeted a weapons-carrying vehicle moving between a residence and a small warehouse. US forces were watching it with Predator and waiting for the target to drive back to the walled compound of the residence. When it did, the driver parked the vehicle under the carport. "We put a Hellfire over the wall [of the house] and under the carport with no damage to the house," said Johanson. "That's the payoff."

Operations began on the night of Nov. 7, 2004, as lead elements of the 10,000-strong coalition force seized a hospital that doubled as a known insurgent base of operations. Aircraft hit preplanned targets—such as barricaded insurgent sites—then shifted to on-call response.

After eight days, Fallujah was "secure"—meaning that 100 percent of it was passable for coalition and Iraqi forces, although sporadic fighting continued. By the end of the month, it had been cleared of most insurgent resistance. Strike sorties



USMC photo by Lance Cpl. Thomas D. Hudzinski

***The ability to precisely hit targets such as this insurgent stronghold marks a major departure from traditional air attacks on cities. There are many accounts of precision weapons "plucking buildings."***

across Iraq that week surged to 379—a one-third increase over the average. ISR sorties for Iraq also hit a peak of 161 sorties, the highest total that fall.

### Sharper Focus

From the start, the air component was able to focus on the urban area and provide major advantages scarcely seen in urban warfare. These included expanded situation awareness down to the tactical level, rapid precision strikes, and airlift support.

Planners had also mapped Fallujah "down to the street addresses," as one said. Information about a total of just under 800 buildings was fed into a database, to be shared among air planners, aircrews, and ground forces. For each building, mensurative coordinates already were in place. When joint tactical air controllers called for strikes, data about a particular building often was already in the database. Alternatively, controllers could use the data to call for strikes on a building near a mapped site. "One of the huge successes of Fallujah II was the ability to preplan and get the playbook to everyone," said Maj. Eric Grace, an air planner.

In both April and November, Lt. Col. Greg Harbin spent time on the ground controlling air strikes. Harbin said "a big lesson" of Fallujah is that "preplanning shortens the kill chain." He added, "We knew their alleyways better than they did."

On the front lines creating that new level of situation awareness was Predator. "It's Predator TV, a God's-eye picture for troops on the ground, that saves lives every day," Lt. Col. Stew Kovall, 17th Reconnaissance Squadron commander, explained to a Texas CBS News affiliate. He was speaking about Predator's focus on battlefronts from Afghanistan to Iraq. However, the value of the real-time overview was intensified in urban operations.

Restricted lines of sight had always been a factor that favored defenders. Predator—along with other tactical UAVs such as Pioneer—helped overcome that in many cases.

Direct feeds via satellite to command centers and selected forces on the ground opened up a full-motion video perspective on the street battle. Insurgent forces often were unaware of how closely they were being watched by airborne sensors.

For many coalition forces, watching such action was an eerie experience.

"We've seen people setting up mortars," said Capt. Catherine Platt, a Predator sensor operator with the 17th RS, to CBS News reporters in Dallas, "and actually located improvised explosive devices [known as IEDs], and were able to prevent somebody with weapons from being able to shoot or injure any of our troops."

Thanks to laptop links to the aircraft, troops on the ground in Fallujah got the same view of the battle-



**AC-130 gunships, such as this one, can identify and track targets. If necessary, they will lay down close air support fire when friendly forces are dangerously close to enemy locations.**

field as that given to Predator operators and command center duty officers.

The sensors of other aircraft, such as the AC-130 gunship, also got a tremendous workout in counter-insurgency operations. A widely circulated piece of video footage showed the gunship's ability to track, monitor, and target insurgents, make a positive ID, and then destroy them according to the rules of engagement.

Here were the main features of the air component operations for Fallujah:

- Complete air dominance. Despite the later discovery of a handful of SA-7 surface-to-air missiles in Fallujah, there was no doubt the coalition had complete air dominance there, courtesy of years of no-fly zone operations and the OIF air campaign. Air dominance over Fallujah and other hotspots permitted ISR assets and fighter, bomber, and gunship pilots to take the time required to build situation awareness, work with joint tactical air control parties on the ground, and select weapons ranging from Hellfire to the satellite guided Joint Direct Attack Munition.

- Layered 24-hour support. With air dominance, the air component could put its top sensor and strike platforms in holding patterns over the city and acquire from above a level of battlespace awareness never before seen in an urban fight. As

with Baghdad in the spring of 2003, the air component planned its air support for Fallujah meticulously. Task one was deconflicting platforms over the city's airspace by time, altitude blocks, and ingress and egress routes. Planners referred to the aircraft in the stacks as the upside-down wedding cake—"layered all the way up," as USAF Lt. Col. David Staven said to a reporter for the Associated Press.

- Joint integration. In those layers, fighters were on call for designated time slots. Air component planners scheduled their in and out trips

to achieve 24-hour coverage with no gaps. That gave the teams of special operations forces, Air Force, and Marine Corps tactical air controllers a constant resource. Improved consistency and training, plus better connections with higher command centers, now kept the flow of air support running smoothly even with multiple teams on the ground. Joint assets—Navy carrier-launched aircraft and land-based Marine Corps aircraft as well as Air Force aircraft—supplied the stacks. AC-130 gunships with their combination of sensors and precise artillery fire once again proved immensely popular with the ground forces they supported.

- Strafing. Gen. John P. Jumper, USAF Chief of Staff, cited what he called a "surprising" amount of strafing. He said that it was necessary at times "in order to get precision." Harbin, referring to his personal experiences calling in strafing in Fallujah, said, "It's a wonderful thing. We were ambushed, and an F-15 strafed and got us out of that. I've seen enemy break and run just because you have a fighter down low."

In addition to strafing, said Jumper, "we had a significant number of airplanes in there, working against individual buildings. There are many accounts of our GPS-guided weapons plucking buildings out of the middle of very populated areas."

- Heavy ISR tasking. It took a much greater percentage of ISR sorties to



**Persistent battlespace awareness is critical in urban settings, and platforms such as this Predator UAV help meet the demand. Real-time surveillance lets ground forces "see" around corners and over buildings.**

USAF photo by SSgt. Suzanne M. Jenkins

sustain urban operations during the Fallujah fight. In OIF in 2003, strike sorties flown outnumbered ISR sorties by more than 12-to-1. For Fallujah, the ratio was just over 2-to-1. That made ISR a top contributor to modern urban operations.

■ Demand for first-strike success. In Fallujah, the targets for fighters, bombers, and gunships were generally clusters of insurgents being identified by ground forces or other sensors in real time. The targets ranged from buildings to trucks to snipers. Aircrews tasked with the strikes had to hit targets the first time to be effective. The nature of the close support operations also meant there was rarely an opportunity to go back and restrike the same target.

■ Immediate follow-on attacks. As a result of operations throughout the prior months, airmen already knew what to do when insurgents fled a site under air attack. Ideally, air component systems would follow them and hit the next building they entered and resume the attack. The *Washington Post* reported the details of such a one-two punch that took place Nov. 10. Air strikes hit one house holding insurgents, then struck a second smaller house where the survivors had fled. That combination took persistent surveillance, communications, and striking power.

■ Airlift and medevac. Positioning people, equipment, ammunition, and supplies heavily taxed the air component's mobility forces. At Balad AB, Iraq, mobility airmen on one day tripled their typical daily transport average to 1.3 million pounds. Air Force strategic and tactical airlift surged to put in place the pieces needed for the renewed offensive. Medical evacuation moved wounded to higher-level care facilities rapidly.

It wasn't only the marines on the ground who were using innovative tools and tactics in the urban fight. The air component worked hard to maximize accuracy and minimize collateral damage. America's powerful military force could, if it wished, quickly turn Fallujah into a pile of



AP photo by Anja Niedringhaus

**The proper integration of airpower into Fallujah's ground operation provided on-call strike and created an unprecedented level of urban warfare competence. The new model added to the "margin of superiority" for ground forces.**

rubble, but there was no point to doing that. Making rubble was the old ideal, precision the new.

### Ideal Weapon

When large quantities of the 500-pound GBU-38 JDAM arrived in the theater in fall 2004, the system quickly became a top air weapon for use in the urban environment. The GBU-38 caused less collateral damage and eliminated uncertainties associated with laser guided bombs.

"This was the right weapon for the job," said the F-16 lead pilot who flew the first GBU-38 mission. "If we used any bigger [weapon], we would have caused unnecessary damage."

Air component support increased ground force efficiency. The end result was a speedy offensive that focused firepower where it was needed.

As with other campaigns in recent years, commanders were admonished to keep attacks precise. Reported Marine Corps Col. Mike Regner, the I MEF operations officer: "Not a piece of ordnance goes into that city that I don't watch" in one way or another.

Regner also described how air attacks used laser guided bombs to

topple a minaret hiding snipers, without causing damage to an adjacent mosque.

In Regner's view, the weapon precision was unprecedented.

"Is this like Vietnam?" he asked. "Absolutely not. ... Hue City ... was leveled, and there wasn't precision targeting, and they didn't secure it in the amount of time that we've secured" Fallujah, he said.

There was no doubt the second battle for Fallujah was a necessary one. Many of the estimated 2,000 insurgents in the city were killed and their sanctuary eliminated.

"Besides being a safe haven for leadership command and control, Fallujah was a center for making the IEDs that were being produced and used in other parts of the country to attack the coalition," said USAF Lt. Gen. Lance L. Smith, CENTCOM deputy commander.

Fallujah was hardly left unscarred by recent operations there. Destruction was great. Even so, the evolution of airpower changed the calculus for insurgency operations in the urban environment. Air and space power working together can now engage targets with dial-up precision and immediate command and control.

The model unveiled in Fallujah adds to the margin of superiority for forces on the ground and takes the pursuit of major targets to a new level of competence through persistent ISR and on-call strike. ■

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