Chapter Three

LEGAL AND POLITICAL CONSTRAINTS ON URBAN AEROSPACE OPERATIONS

INTRODUCTION

Recent U.S. and coalition operations in the Balkans and elsewhere have been marked by heated controversy over target selection. Demonstrating the difficulty of balancing the often-competing concerns of avoiding collateral damage, minimizing risk of U.S. casualties, and maximizing military effectiveness, they show that many of the most limiting constraints on future U.S. urban military actions are going to be legal and political, not technological or operational.

To be sure, legal and political constraints are not independent of technological and operational constraints. Expanded capabilities or new operational concepts may provide the means of reducing or avoiding collateral damage and enhancing force protection, and they may inform the public perceptions that drive legal and political constraints. However, in planning for urban operations, the most salient limitations on U.S. military action are often those the military places on itself by adhering to international legal norms and restrictive rules of engagement (ROE) to satisfy public and diplomatic pressures.

Urban environments may pose enormous difficulties for those planning and conducting military operations within the boundaries of international law and self-imposed constraints on the use of force. The speed and agility of aerospace power, combined with its ability to deliver firepower precisely and with fairly low risk to U.S. personnel across the spectrum of conflict, often make it the military instru-
Aerospace Operations in Urban Environments

...ment of choice for decisionmakers. However, the heightened risk of collateral damage when operating in urban environments partially offsets U.S. technological superiority and provides adversaries with expanded opportunities to exploit U.S. adherence to certain norms. As a result, the urban-combat options available to planners and decisionmakers are generally far narrower than the domain of the feasible.

Effective planning for future urban operations, with its consideration of new technologies and operational concepts, requires first an appreciation of the factors that will govern whether and how those technologies and concepts will be used. This chapter aims to place urban aerospace operations in their legal and political context, thereby laying the foundations for assessing USAF urban-combat capabilities across the range of potential tasks. It gives particular attention to urban MOOTW, because air operations in this context are especially difficult (owing to the inherent constraints associated with MOOTW) and may be common in the near future. But the issues presented in this chapter apply to conventional combat operations as well. The chapter also draws on air campaign planning experiences during the Vietnam and Persian Gulf Wars and, more recently, NATO operations over Kosovo—operations that, while lying outside the focus of this volume, spotlight the most pertinent competing pressures that constrain planning of all air operations.

LEGAL CONSTRAINTS ON URBAN AEROSPACE OPERATIONS

The body of norms regulating the conduct of states and combatants engaged in armed hostilities is the law of armed conflict.\(^1\) International law generally derives from both treaties (conventions and agreements among states) and custom (behavioral norms that become widely recognized among states as binding). Contemporary law of armed conflict draws heavily from the Hague Conventions,

\(^1\) The term “law of war” is often used interchangeably with “law of armed conflict,” even though the legal requirements placed on parties sometimes depend on the type of conflict or operation being waged. This chapter is concerned with the legal norms that apply across the spectrum of conflict and, for clarity’s sake, employs throughout the term “law of armed conflict.”
negotiated at the peace conferences of 1899 and 1907, and the Geneva Conventions, as well as from numerous agreements that limit the means and conduct of hostilities. Together with norms that have evolved out of customary practice among states, these various sources of law aim to reduce damage and the suffering of combatants and noncombatants during conflict.

The United States has a strong interest in upholding international norms, which tend to be stabilizing forces and increase the predictability of state actions. Beyond a general commitment to upholding the law of armed conflict, U.S. planners place a premium on the perceived legitimacy of military operations. That legitimacy often turns, in part, on the perceived legality of those operations, although, as discussed below, demands to maximize U.S. force protection and military effectiveness sometimes create strong countervailing pressures that must be balanced. Planners strive to maintain support among three sets of audiences—the domestic public, the international community, and some parties local to the areas of operations; adherence to international law can bolster this support.

While interpretations of some international legal provisions shift or remain unsettled, many of the basic principles (e.g., proportionality) embodied in the law of armed conflict have, over time, been internalized in the highest levels of strategic planning down to the lowest levels of tactical decisionmaking by individuals, when commitment to legal norms helps motivate and sustain the morale of U.S. servicemen. Prior to and during operations, legal advisers and military Judge Advocate General (JAG) officers have played a variety of roles

---

2For example, the 1925 Geneva Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or Other Gases and of Bacteriological Methods of Warfare prohibits the use of some types of chemical weapons.


in ensuring compliance with international law—roles that have gained prominence in the past decade.\(^5\)

The body of international law regulating armed conflict is intricate, and many of its key provisions remain contested among states, international organizations, and scholars. But much of the law of war can be reduced to several key concepts around which there is near-consensus: military necessity, humanity, proportionality, and distinction (or discrimination).

International regulation of armed conflict begins with the principle of **military necessity**, “the principle which justifies measures of regulated force not forbidden by international law which are indispensable for securing the prompt submission of the enemy, with the least possible expenditures of economic and human resources.”\(^6\) In pursuing military victory, however, parties are also governed by the principle of **humanity**, which forbids the infliction of injury or destruction not necessary to the achievement of legitimate military purposes.

To a degree, the principles of military necessity and humanity complement each other, both reflecting the notion of economy of force. Yet, there is also a tension between them that the law of armed conflict seeks to mediate, between allowing sufficient military flexibility to subdue an enemy and restricting that flexibility to reduce the destructive impact of conflict. Many of the specific rules contained in the law of armed conflict attempt to balance, on the one hand, the latitude necessary for military forces to carry out their functions, with, on the other hand, a desire to minimize human suffering.\(^7\)

\(^5\)More and more, international law experts and military judge advocates are paying particular attention to review of target lists and promulgation of rules of engagement (ROE).


\(^7\)The precise formulation of these key principles varies. U.S. Department of the Navy, *The Commander's Handbook on the Law of Naval Operations*, NWP1-14M/FMFM 1-10/COMDT/2P5800.7, October 1995, para 8.1, for example, enumerates the following three fundamental principles of the law of armed conflict that regulate targeting:

- The right of belligerents to adopt means of injuring the enemy is not unlimited.
- It is prohibited to launch attacks against the civilian population as such.
Together, the principles of military necessity and humanity underlie the rule of *proportionality*, which demands that parties refrain from attacks, even against legitimate military targets, likely to cause civilian suffering and damage disproportionate to the expected military gain.8 A classic example of this rule holds that if a force advancing through a town encounters a single enemy sniper firing from atop a hospital, the force is prohibited from demolishing the entire building, especially if less extreme options are available, because the civilian harm would far outweigh the military advantage attained.

Embedded in these principles and rules is the idea of *distinction* (or *discrimination*) between military and civilian persons or property. Planners and commanders are obligated to distinguish between military and civilian targets, restricting their attacks to the former only. In broad terms, international law prohibits attacks on civilian populations as such, as well as acts or threats of violence having the primary purpose of spreading terror among the civilian population.9 Furthermore, operations are to be directed exclusively at *military objectives*, defined as “those objects which by their own nature, location, purpose, or use make an effective contribution to military action and whose total or partial destruction, capture, or neutralization in the circumstances ruling at the time offers a definite military advantage.”10

Air Force Pamphlet 110-31, *International Law—The Conduct of Armed Conflict and Air Operations*, instructs that, in applying international legal limits to air attacks, planners must take the following precautions:

- Distinctions must be made between combatants and noncombatants, to the effect that noncombatants be spared as much as possible.

8Article 51(5)(b) of Protocol I prohibits “an attack which may be expected to cause incidental loss of civilian life, injury to civilians, damage to civilian objects, or a combination thereof, which would be excessive in relation to the concrete and direct military advantage anticipated.” The United States has accepted this provision as reflecting international law. Matheson, 1987, p. 426. Although this principle is almost universally regarded internationally as law, its precise meaning remains elusive, in part because of the inherent difficulties in measuring, and then weighing, expected military gain and civilian harm.


(a) Do everything feasible to verify that the objectives attacked are neither civilians nor civilian objects . . .

(b) Take all feasible precautions in the choice of means and methods of attack with a view to avoiding, and in any event to minimizing, incidental loss of civilian life, injury to civilians, and damage to civilian objects; and

(c) Refrain from deciding to launch any attack which may be expected to cause incidental loss of civilian life, injury to civilians, damage to civilian objects, or a combination thereof, which would be excessive in relation to the concrete and direct military advantage anticipated.11

Note that these precautions embody the principles outlined above: discrimination (section a), humanity (section b), and proportionality (section c).

Aside from the general rule prohibiting direct attacks on civilian objects, narrow rules also proscribe attacks on specific objects granted special protection. The 1949 Geneva Conventions protect hospitals and other medical assets. Religious and cultural buildings and monuments are also promised special protected status under international law.12

These provisions are not open and shut but give way to contention and further interpretation. Authorities disagree on whether planners and operators legally must always select the weapon, from among those capable of destroying a target, that poses the least risk of collateral damage and civilian injury when operating in highly populated areas. The principles of humanity and distinction give rise to the consensus view prohibiting weapons that cause superfluous

---

11 AFP 110-31, 1976, p. 5-9. These requirements mirror almost verbatim the provisions in Protocol I, Article 57. In attacking even legitimate military targets, commanders may also be obligated to issue warnings to civilians within their vicinity. This requirement is long-standing, and codified in Hague Regulations, though with an important caveat for cases of assault, when advanced warning would spoil tactical surprise. Thus, “general warnings are more frequently given than specific warnings, lest the attacking force or the success of its mission be jeopardized.”

12 This status was codified in Article 27 of Hague Regulations Respecting the Laws and Customs of War on Land, 18 October 1907, and Article 5 of Hague Convention No. IX Concerning Bombardment by Naval Forces in Time of War, October 18, 1907.
injury (e.g., poisoned projectiles; dum-dum bullets) or are completely incapable of discrimination (e.g., WWII German V-1 and V-2 rockets). Some scholars and organizations argue that, beyond these minimal threshold prohibitions, an attacker must choose the means and methods for minimizing the risk of incidental civilian damage to the greatest extent feasible. Under this interpretation, for example, U.S. forces would always be legally obligated to use precision-guided munitions against urban targets. Since the Vietnam War, U.S. forces have virtually always done so for reasons related to politics or military effectiveness, but the U.S. military generally opposes this more restrictive legal interpretation.

Another increasingly contentious issue involves choices between weapon systems, particularly standoff weapons, that may trade off increased force protection for a heightened risk of collateral damage. Again, the U.S. military favors a liberal interpretation of weapon-selection duties, one that permits an extremely high level of force protection so long as an appropriate level of accuracy is still ensured.

In the remainder of this section, we focus on the reciprocal legal duties and the defender’s obligations and the international legal challenges of urban environments.

---

16 According to *The Commander's Handbook on the Law of Naval Operations*, for example, “[m]issiles and projectiles with over-the-horizon or beyond-visual-range capabilities are lawful, provided they are equipped with sensors, or are employed in conjunction with external sources of targeting data, that are sufficient to ensure effective target discrimination.”
Reciprocal Legal Duties and the Defender’s Obligations

So far, this outline of legal constraints has been one-sided; it has focused on regulating the attacker’s actions. Because the attacker generally has an array of options for when, where, how, and how much it employs destructive force, the law of armed conflict places on it the above-mentioned responsibilities. But the international legal regime also places corresponding duties on the defender.

Efforts during the past several decades to codify the law of armed conflict have emphasized the reciprocal duties of attackers and defenders. Article 58 of Protocol I demands that parties endeavor to segregate military objectives from their civilian population and take steps to protect civilians from the dangers of military operations. Article 51 also provides that the “presence or movements of the civilian population or individual citizens shall not be used to render certain points or areas immune from military operations, in particular in attempts to shield military objective from attacks or to shield, favour or impede military operations.”

Exploiting the discrimination requirement placed on attackers by deliberately commingling civilians with military targets violates the

---

17The law of armed conflict, particularly as applied to air operations, often speaks in terms of “attacker” and “defender.” Because this document analyzes constraints on U.S. air operations in urban environments, the former, generic term is assumed to apply to U.S. forces, while the latter describes adversaries’ obligations and actions.

18The same principle applies to specially protected sites. For example, Article 19 of the Geneva Convention for the Amelioration of the Condition of the Wounded and Sick in Armed Forces in the Field (1949) establishes that “the responsible authorities shall ensure that the said medical establishments and units are, as far as possible, situated in such a manner that attacks against military objectives cannot imperil their safety.”

19Protocol I, article 51(7). This admonition is similarly articulated in Air Force Pamphlet 110-31 (1976, p. 5-8), which explains:

The requirement to distinguish between combatants and civilians, and between military objectives and civilian objects, imposes obligations on all the parties to the conflict to establish and maintain the distinctions. . . . Inherent in the principle of protecting the civilian population, and required to make that protection fully effective, is a requirement that civilians not be used to render areas immune from military operations. Civilians may not be used to shield a defensive position, to hide military objectives, or to screen an attack. . . . A party to a conflict which chooses to use its civilian population for military purposes violates its obligations to protect its own civilian population. It cannot complain when inevitable, although regrettable, civilian casualties result.
basic principles of the law of armed conflict. Note, however, that a
defender’s violation of these principles—for example, its deliberate
placement of civilians in the vicinity of military targets or its use of
specially protected sites to house weapons—does not eliminate all
legal obligations on the attacker. Among other things, an attacker
would generally remain bound by proportionality principles and
obliged to refrain from attacks likely to result in civilian damage that
is excessive in relation to military gain. Nevertheless, the relative pro-
tects normally granted those civilian persons and objects is weak-
ened. As elaborated below, adversaries, especially those that show
little regard for international law and do not face political or diplo-
matic pressures similar to those faced by the United States, have ex-
loited the asymmetry of constraints for strategic or tactical gain,
with some success.

The International Legal Challenges of Urban Environments

Compliance with the principles of discrimination and proportion-
ality is confounded by the structure and organization of urban centers.
From a planning viewpoint, these principles contain a foreseeability
element: Planners must consider collateral damage and likely injury
to noncombatants or civilian property and must take reasonable ac-
tions to avoid or minimize these effects. By connecting and tightly
packing both military and civilian resources, not only may the urban
environment increase the chances that military attacks will harm
civilians, but it may increase the likelihood that even precise attacks
can unleash substantial secondary effects on the urban population.
For example, a perfectly executed attack on a power plant might not
harm a single civilian directly, but thousands could be harmed indi-
rectly through effects related to the loss of electrical power in the city.

The density of civilian populations in urban areas may increase the
chances that even accurate attacks will injure noncombatants. In
addition, the collocation of military and civilian assets in urban envi-
rornents multiplies the chances that military attacks will cause un-
intended, and perhaps disproportionate, civilian damage. The
proximity of civilian and military targets in urban environments ex-
ists in the horizontal dimension (military and civilian structures sit-
uated side by side) as well as the vertical dimension (military and
civilian assets stacked one above the other, within the same structure).

Horizontal proximity of civilian and military sites raises both the possibility that an attack will accidentally hit nearby civilian buildings or the possibility that a direct hit on a military site will damage adjacent civilian ones. A primary objective for U.S. forces during the early phases of Operation Just Cause was the Panamanian Defense Force (PDF) general headquarters, the Comandancia, located in the middle of a poor Panama City neighborhood (El Chorrillo). During U.S. shelling of the headquarters and subsequent efforts to squelch sniper fire, several fires broke out and spread through nearby civilian residences, leading the human rights organization Americas Watch to conclude that “inadequate observance of the rule of proportionality resulted in unacceptable civilian deaths and destruction,”20 a conclusion disputed by other post-operation analyses. Most urban air operations were conducted with direct line-of-sight precision weapon platforms, which were more accurate than indirect-fire weapons, thereby reducing the risk and extent of collateral damage.21 Even with these precautions in place, civilian injury and damage were extensive.22

During Operation Desert Fox in December 1998, planners avoided bombing some facilities that contributed to Iraq’s chemical weapons program because of the possibility of releasing toxins within Baghdad and the effects of those toxins.

Regardless of whether these targeting restrictions were strictly required from a legal standpoint, they illustrate that civilian and military sites need not be immediately adjacent to complicate decision-making that seeks to avoid collateral damage.

---

20Americas Watch, The Laws of War and the Conduct of the Panama Invasion, May 1990, pp. 16–21.
22Most estimates put the total number of civilian deaths resulting from the Panama invasion between 220 and 300. (Parkerson, 1991, p. 55). Americas Watch (1990, p. 19) reported that the attack on La Comandancia left about 15,000 persons homeless and resulted in 50–70 civilian deaths.
The Gulf War Al Firdos bunker incident demonstrates how proximity of military and civilian targets can operate in a vertical dimension, especially in an urban environment. On the night of February 13, 1991, U.S. F-117 strikes destroyed the bunker, a building that intelligence gatherers had identified as a command and control facility. The true nature of the facility remains disputed, but on the night it was destroyed it housed families of government officials in its upper levels; the strikes thus resulted in dozens of civilian deaths. Vertical proximity creates similar potential problems for neutralizing an urban sniper without harming civilians in rooms above or below, as well as beside, his.

The legal regime recognizes the difficulty of military decisionmaking in war. It thus obligates planners and commanders to base their decisions on information available at the time, not in perfect hindsight. The fact that civilian and military targets may be stacked on top of each other in urban environments complicates the assessment of potential civilian risk in attacking certain sites, as well as the ability, even after information is gathered, to destroy only military targets. As elaborated below, both horizontal proximity and vertical proximity of military and civilian targets present adversaries with opportunities to exploit legal and political constraints to immunize legitimate targets from attack.

Particular difficulties emerge from the collocation of civilian and military assets in urban environments when air defenses are concentrated near key targets. Not only does the emplacement of air defense systems or even the possession of hand-held anti-aircraft weapons by local forces in densely populated areas compound the problem of civilian-military asset mingling, but it can increase the chance of civilian damage resulting from air attacks on military targets, because attacking aircraft may now be forced to take evasive actions, jettison ordnance, or operate at higher altitudes. As Hays Parks has explained, “The purpose of enemy defenses is not necessarily to cause aircraft losses; the defender has accomplished his mission if he makes the attacker miss his target.”23

---

Urban environments contain shared military-civilian resources and house dual-use facilities. The military and civilian population often utilize common power sources, transportation networks, and telecommunications systems. Distinguishing between military and civilian infrastructure is sometimes difficult—especially support systems that provide basic needs, such as electricity. It may be impossible to destroy or disrupt only those portions servicing the military. During crises, for example, the military is generally the priority user and can be expected to utilize any residual capacity. Attacks on shared infrastructure can also have large reverberating effects on the civilian population, giving rise to concerns about proportionality.24

Planners sometimes view the dual-use nature of infrastructure systems opportunistically, because military usage arguably legitimizes these systems as targets, even though it may in fact be the incidental effects on the civilian population that planners hope to manipulate. As a result, the United States tends to favor liberal legal interpretations of “military objective” regarding dual-use facilities.25

Some of the most vocal criticism of Operation Desert Storm has surrounded air attacks on the Iraqi electrical system. Air campaign planners sought to degrade Iraq’s electric-power generation and distribution capabilities during early phases of the operation to disrupt air defenses and command networks. Air planners recognized that these attacks would deny electricity to the Iraqi populace as well; to some degree, civilian deprivations were intended as part of the overall air strategy to compel the regime’s capitulation.26 Post-war accounts suggest that, to achieve immediate military objectives without subjecting the population to prolonged hardship, planners sought to avoid destroying those elements of the electric system that

24Some disagreement exists about how to calculate adverse civilian effects of attacks on military targets. One view holds that planners must consider the long-term, indirect effects of attacks on a civilian population; the U.S. military adheres to a narrower interpretation, emphasizing only direct civilian injuries or deaths. During operational planning, when target lists are reviewed for compliance with international law, much greater emphasis is typically given to immediate collateral-damage effects.

25“When objects are used concurrently for civilian and military purposes, they are liable to attack if there is a military advantage to be gained in their attack.” U.S. Department of Defense, Conduct of the Persian Gulf War, Final Report to Congress, Washington, D.C.: U.S. Government Printing Office (GPO), 1992, p. 613.

would require long-term reconstruction. In that sense, they emphasized discrimination in a temporal, rather than geographical, dimension, by trying to minimize potential lingering civilian effects long after the conflict.

However, the interconnectedness of resource systems in a modern society means that attacks against certain elements can have unexpected ripple effects. As one post-war analysis of these strikes explained: “Unfortunately, it is simply not possible to segregate the electricity that powers a hospital from ‘other’ electricity in the same lines that powers a biological weapons facility.”27 In this case, the loss of power-generating facilities disrupted irrigation, sewage, and medical systems, contributing to massive outbreaks of waterborne diseases and other public health crises (some post-war studies recorded a civilian death toll perhaps surpassing 100,000 as a result of these effects).28

The dilemmas stemming from shared civilian-military resources can be expected to increase, as greater parts of the world modernize and develop networked infrastructure systems. Some military theorists welcome this trend, viewing these systems as vulnerable to U.S. aerospace power and their destruction or degradation possibly allowing planners to bypass the adversary’s fielded military forces by influencing the adversary populace and its leadership decision-making.29

Even if operational concepts directed at disrupting these systems pass legal scrutiny, political constraints may limit their availability to planners.

28For a critical account of coalition attacks on the Iraqi electric system and its after-effects, see Middle East Watch, 1991, pp. 171–193. Note that the long-term effects of these attacks resulted, in part, not only from international sanctions but also from resource-allocation decisions by the Iraqi government.
29See, for example, John A. Warden III, “The Enemy As a System,” Air Power Journal, Vol. IX, No. 1, Spring 1995, p. 49, who argues that "[u]nless the stakes in the war are very high, most states will make desired concessions when their power-generation system is put under sufficient pressure or actually destroyed."
POLITICAL CONSTRAINTS ON URBAN OPERATIONS

As just outlined, the law of armed conflict imposes obligations on attackers and defenders to take precautions to reduce the risk of collateral damage and civilian injury. The risk of such damage from air operations may be magnified in those urban settings where military and civilian assets are collocated and difficult to distinguish. As a result, legal constraints on air operations will often be most tightly felt by planners and operators in urban environments.

These legal obligations are supplemented by an additional set of constraints on planners that are driven by political forces. Public and coalition sensitivity to friendly casualties and collateral damage often reduces operational flexibility more severely than does adherence to the international law of armed conflict. They may also push in opposite directions. For example, a requirement that U.S. ground-attack aircraft fly at higher altitudes to minimize risks to crews could make it harder to identify vehicles or personnel on the ground and, under some circumstances, might lead to unintended attacks on civilians. As happened in Kosovo, flying that high resulted in misidentification of civilian-vehicle traffic as an enemy. Flying at lower altitudes might have allowed pilots to recognize the convoys as civilian, but at a much greater risk to the aircrews.

Political constraints derive from the need to maintain certain minimum levels of support for military operations among three audiences: the domestic public, the international community (most notably, the United States’ major and regional allies), and the local population in the conflict area. The relative weight of these audiences’ opinion on U.S. decisionmaking varies considerably with context and type of operation. For example, when vital U.S. interests are at stake, decisionmakers are less likely to adapt operations to placate international dissent; when peripheral interests are at stake, the relative importance of diplomatic backlash naturally rises and decisionmakers will tailor operations accordingly. During full-scale combat operations, the demands of the local populace will typically concern U.S. decisionmakers and planners less than they will during peacekeeping or humanitarian operations, in which perceived impartiality and maintaining consent of factional parties may be critical to success. Even when U.S. vital interests are at issue, these pressures affect strategic decisions about when and whether to conduct mili-
tary operations at all, as well as operational decisions including choice of forces, weapons, and ROE.

In this section, we look at issues that affect the domestic public—sensitivity to American casualties—and the international community and local population in the conflict area—sensitivity to collateral damage and civilian suffering—as well as operational decisions.

Sensitivity to American Casualties

Today, U.S. military operations are planned and conducted with high sensitivity to potential U.S. casualties. Policymakers and planners generally fear that U.S. casualties will—or at least may—erode support for sustained operations. Force protection is therefore paramount in designing operations.

Contrary to the predictions of those who saw Desert Storm as putting the Vietnam experience behind, the low American death total in the Gulf War relative to Vietnam likely raised public expectations of “bloodless” foreign policy, as well as the perception among policymakers and military planners that public expectations in this regard have risen. The further erosion of already-fragile American public support that followed the October 1993 deaths of 18 U.S. servicemen in Mogadishu suggests the strong pull that casualties can exert on U.S. policy. The extended deployment of U.S. ground forces to enforce the Dayton peace accords in the former Yugoslavia only confirms this tendency: Unlike troops of other NATO partners, U.S. troops patrol in convoys and have avoided actions likely to provoke hostile responses from local factions.30

Although a number of empirical studies have shown that the effects of U.S. casualties on public support depend heavily on a number of other contextual variables and factors—for example, support is likely to erode with casualties when public views victory as unlikely31—this

31For such conclusions and evidence drawn from other studies, see Eric V. Larson, Casualties and Consensus: The Historical Role of Casualties in Domestic Support for U.S. Military Operations, Santa Monica, Calif.: RAND, MR-726-RC, 1996. Larson’s study showed that, in a number of past cases, support for a military operation declined
sensitivity affects policy and planning decisions both before and during operations, when concern for potentially adverse public reactions weighs heavily.

Adversaries often view casualty sensitivity as a critical element of the United States’ “center of gravity”: its political will to sustain operations. Somali warlord Mohammed Farah Aideed reportedly told Robert Oakley, the U.S. special envoy to Somalia during the U.S. intervention there, “We have studied Vietnam and Lebanon and know how to get rid of Americans, by killing them so that public opinion will put an end to things.” Accordingly, adversaries are likely to adopt counter-intervention strategies that impose high risks of U.S. casualties.

In part because of casualty sensitivity, U.S. foreign policy also exhibits a tendency to choose military instruments such as cruise missiles or manned aircraft, which either put no U.S. personnel in harm’s way or minimize the number at risk. A long-standing tenet of the “American way of war” has been a reliance on materiel over manpower, high-technology over low-tech mass. The heavy reliance on the vast U.S. technological superiority, featuring in particular modern stealth and precision-guidance systems, has contributed to what Eliot Cohen has dubbed “the mystique of U.S. air power.” Not only do such high-technology instruments provide the necessary target discrimination to satisfy the public’s demand for minimizing civilian suffering, but they also allow U.S. forces to bring massive firepower to bear without placing significant numbers of U.S. personnel in danger. The use of cruise missiles to attack suspected terrorist targets

as a function of the log of the casualties, although the sensitivity to casualties depended on the perceived benefits of and prospects for success. See also John Mueller, Policy and Opinion in the Gulf War, Chicago: University of Chicago Press, 1994, pp. 76–77, who reports empirical findings from previous conflicts to support the theory that U.S. casualties, especially under certain circumstances, erode public support for continued operations.


in Afghanistan in August 1998, and their threatened use against Iraqi forces in November 1998, reflected this tendency, even at the expense of predictably degraded military effectiveness.  

**Sensitivity to Collateral Damage and Civilian Suffering**

U.S. military operations are also planned with concern for minimizing collateral damage. As with American casualties, policymakers' and the public's sensitivity to collateral damage depends on the context. On the one hand, during the Vietnam conflict, many perceived that the U.S. and South Vietnamese forces were conducting indiscriminate operations—perceptions that appeared to be validated by coverage of My Lai and other actual or alleged atrocities. These perceptions combined with the indecisiveness of the war to fuel public disaffection. On the other hand, there was little adverse public reaction to the hundreds of Somali deaths resulting from firefights with U.S. or UN forces, nor has there been vocal outcry since the Gulf War to Iraqi civilian deaths resulting from air strikes or economic sanctions, even though a majority of the U.S. public, at the height of the Gulf War, believed that the people of Iraq were innocent of any blame for Saddam Hussein’s policies. Nevertheless, significant segments of the U.S. population support minimizing risk to enemy civilians. And, even if other segments are unlikely to withdraw support as collateral damage occurs, if military planners and operators do not take substantial steps to minimize risks to civilians, general

---


36 As Guenter Lewy explained, “The impact of the antiwar movement was enhanced by the widely publicized charges of American atrocities and lawlessness. The inability of Washington officials to demonstrate that the Vietnam war was not in fact an indiscriminate bloodbath and did not actually kill more civilians than combatants was a significant factor in the erosion of support for the war.” Guenter Lewy, *America in Vietnam*, New York: Oxford University Press, 1978, p. 434.

37 A *Los Angeles Times* poll (February 15–17, 1991) showed that 60 percent of respondents thought that the people of Iraq were innocent of any blame, while only 32 percent thought that the people of Iraq must share blame for Saddam Hussein’s policies. Mueller, 1994, p. 316. Likewise, accidental NATO attacks on a Serbian passenger train and Kosovar refugee convoys in the early weeks of Operation Allied Force did not undermine U.S. public support for air strikes. A *USA Today* poll (April 16, 1999) taken shortly after these events showed 61 percent support (approximately the same support level as the previous week).
support will probably become less stable and, hence, potentially more vulnerable to unpredictable dips. Moreover, as with U.S. casualties, collateral damage is likely to undermine public support when combined with the perception that U.S. victory is unlikely.\textsuperscript{38} The bottom line is that policymakers are extremely wary of authorizing actions posing high risks of significant collateral damage.

Even when the U.S. public appears willing to tolerate collateral enemy civilian injury, other members of the international community may not, and the risk of either public or international backlash is typically enough to severely constrain U.S. air operations. The added political constraints present in coalition operations are described in more detail below. But even in planning unilateral operations, the sensitivities of allies and other international actors can restrict military planning.

Often, operations must be planned with attention to minimizing enemy \textit{combatant} casualties, in addition to minimizing injury to civilians. At the end of the Gulf War, near the Kuwaiti town of Al Jahra, allied aircraft destroyed hundreds of civilian and military vehicles that Iraqi forces were using to flee north. Reports of the carnage on the “highway of death” led General Colin Powell, the Chairman of the Joint Chiefs of Staff, to worry that the brilliant American military performance would be tarnished by images of the carnage and excessive violence against retreating forces.\textsuperscript{39} So long as enemy forces in such situations have not signaled their surrender, they remain legally targetable.

This example illustrates how other concerns can in sometimes overlay a supplemental set of tighter constraints than international law. During the planning of Operation Deliberate Force, General Bernard Janvier, Forces Commander of the United Nations Peace Forces, ex-

\textsuperscript{38}A survey by the Pew Research Center in May 1999 suggested that public support for NATO air attacks on Yugoslavia decreased because of unintended civilian casualties, combined with public concern that the attacks were ineffective. Richard Morin, “Poll Shows Most Americans Want Negotiated Settlement,” \textit{Washington Post}, May 18, 1999, p. A18.

\textsuperscript{39}Powell’s concerns are discussed in Atkinson, 1993, p. 453. It turned out that the “highway of death” air strikes destroyed many vehicles but killed few Iraqis (most abandoned their vehicles and fled into the desert). The images were more powerful than reality.
pressed concern to NATO planners regarding Bosnian Serb army casualties; targeting choices were therefore amended to reduce the likelihood that military personnel would be hit. This concern over combatant casualties stemmed partly from the special considerations that drive peace enforcement operations, such as perceived impartiality (this issue is elaborated below).

RESTRICTIVE RULES OF ENGAGEMENT AND TARGETING

Political constraints emanating from concern over collateral damage have for the past several decades severely limited planning options during conflicts. During much of the Vietnam conflict, and in every military operation since, political and diplomatic pressures—especially those related to civilian damage and injury—have translated into restrictions on which targets could be struck from the air, as well as when and how.

This is not to say that U.S. forces have always operated in accordance with the law of armed conflict. Interpretations of legal obligations and factual circumstances vary. Moreover, some political pressures push against, rather than with, the humanitarian goals of the legal regime: Whereas concern for collateral damage may caution tremendous restraint in conducting air operations, concern for force protection, military effectiveness, and even financial cost may lead planners to undervalue civilian costs to operations, arguably beyond legal bounds. Undeniably, though, the political factors laid out earlier restrict operational flexibility in more ways than would international law alone.

With strategic options likely to directly cause massive civilian casualties completely off the table, restrictive ROE at the tactical level are

---


increasingly the locus of contentious policy and legal debate. Planners often attempt to minimize collateral damage and civilian injury not only by circumscribing certain targets and conditions for engaging adversary forces but also by limiting the timing of attacks. For example, attacks on certain targets might be restricted to nighttime, when fewer persons would be expected to be in the target’s vicinity.

Figure 3.1 illustrates some of the interacting constraints planners face. The figure represents a hypothetical “snapshot” of a particular crisis. The slope of the line is deliberately drawn to reflect the relatively intense political sensitivity of U.S. casualties and an implicit trade-off discounting of risks to enemy civilians. Planners must select weapon systems and ROE that lie within the parameters imposed by political constraints. The three choices of ROE for the piloted platform—here, an F-16—are intentionally drawn as points along a curve to illustrate the general, although not universal, principle that efforts to reduce risk to friendly aircraft will often increase the risk of collateral damage; likewise, efforts to reduce risk of collateral damage will often place aircraft in greater danger. Cruise missiles allow planners and operators to externalize most or all of the human costs of attacks by placing no U.S. personnel at risk.

---

42 *USA Today* (February 15, 1991) reported immediately following the Al Firdos bunker incident that 69 percent of the public would accept deaths of civilians near military targets in order to save U.S. lives (about three-quarters of those polled supported continued bombing in Iraqi civilian areas). Again, the willingness of policymakers and planners to trade one risk for the other will vary with contextual factor.

43 During the planning and conduct of Operation Deliberate Force, for example, Special Instructions (SPINs) were issued to aircrews directing that (1) those attacking a bridge must make a dry pass over the target and attack on an axis perpendicular to it, releasing only one bomb per pass; (2) those carrying out suppression of enemy air defense (SEAD) strikes were not authorized without special approval to conduct preemptive or reactive strikes against surface-to-air missile sites except under certain restrictive conditions. The first of these directives was subsequently rescinded owing to concerns that it placed NATO aircrews at undue risk. Reed, 1999.

44 W. Michael Reisman, “The Lessons of Qana,” *Yale Journal of International Law*, Vol. 22, 1997, pp. 381–399, worries that such cost-externalization can skew decisionmaking toward the use of standoff weapons when the law of armed conflict would arguably demand the use of more-precise weapons (although ones that might require the attacker to accept some human risk of its own).
Extreme sensitivity to U.S. casualties may result in weapon system and ROE choices that arguably fall short of international legal obligations for collateral damage.

Note that the figure omits an important independent variable referenced briefly above: The United States may be willing to accept both a great risk to civilians and significant casualties if the stakes are high enough. As well, higher prospects for success are likely to increase political tolerance of casualty and civilian risks.

A key planning challenge is to select from among the politically, and legally, acceptable options while still achieving satisfactory levels of military effectiveness (and all within financial and resource limitations). Political concerns about friendly and civilian casualties impose ceilings of acceptable risk along the two featured axes. As higher levels of military effectiveness are demanded, the aperture of practicable options will become smaller.45

---

45 However, it must be noted that effectiveness and casualty concerns are not entirely independent. For example, U.S. political leadership may be willing to tolerate higher risk levels of U.S. or civilian casualties, but only so long as they would ensure higher levels of effectiveness. And, as explained above, low levels of military effectiveness may erode public tolerance for casualties.
During the Gulf War, planners imposed strict ROE on coalition air forces, particularly when engaging urban targets: “To the degree possible and consistent with allowable risk to aircraft and aircrews, aircraft and munitions were selected so that attacks on targets within populated areas would provide the greatest possible accuracy and the least risk to civilian objects and the civilian population.”\textsuperscript{46} To this end, aircrews attacking targets in populated areas were directed not to drop munitions if they lacked positive target identification.\textsuperscript{47} Comparable emphasis on minimizing collateral damage had generated similar restrictions on aircrews during the April 1986 bombing of Libyan terrorist-related targets: The ROE for U.S. pilots required redundant target identification checks, and, as a result, several aircraft could not release their bombs. Operation Deliberate Force ROE stated that “target planning and weapons delivery will include considerations to minimize collateral damage.” Of all munitions dropped by U.S. aircraft, 98 percent were precision-guided munitions (PGMs).\textsuperscript{48} In Kosovo operations, NATO’s ROE prohibited JSTARS from passing target coordinates directly to shooters, as occurred in the 1991 Persian Gulf War.

ROE and targeting restrictions are sometimes subject to major revisions during the course of crises or conflicts. They may be modified to \textit{expand} targeting options and operational flexibility. The Nixon administration was frustrated with unproductive air attacks on North Vietnam, which led it to remove many of the Johnson administration’s limitations, particularly those that circumscribed urban areas. A similar loosening of restrictions took place during NATO’s Operation Allied Force, when allied governments allowed NATO planners greater leeway to attack strategic targets after initial waves of attacks failed to move Yugoslav president Slobodan Milosevic’s regime.\textsuperscript{49}

\textsuperscript{46}U.S. Department of Defense, 1992, p. 612.
\textsuperscript{48}Reed, 1999.
However, many times ROE constrict during a campaign or operation. As operations continue, incidents or claims of excessive collateral damage can generate pressure for even tighter constraints. After the North Vietnamese accused the United States of flagrantly attacking civilian areas during December 1966 air strikes against railway targets near Hanoi, allegedly causing massive suffering, Washington responded by prohibiting attacks on all targets within 10 nautical miles of Hanoi unless specific presidential approval had been given. The Al Firdos bunker incident during the Gulf War resulted in a tightening of political control over target selection; thereafter, all Baghdad targets had to be cleared beforehand with the Chairman of the Joint Chiefs. This last example of extreme collateral-damage risk aversion is particularly significant: Contrary to the fears of some political and military leaders, the U.S. public’s opinion of the air war was actually unmoved by the incident.

One interesting phenomenon stemming from the threat of such tightening has been the recent shift of targeting decisions from political management to management by the high military command levels themselves. The military’s own self-restraint is aptly demonstrated by the tight control that then-Lt Gen Michael Ryan, who commanded NATO’s air forces in the Southern Region, exerted over targeting during Operation Deliberate Force. The political sensitivity surrounding the operation drove him to select personally every aimpoint, even after potential targets had already been scrubbed to avoid significant risk of civilian casualties.

---

52 A *USA Today* poll the following day (February 15, 1991) reported that, when asked if the shelter bombing changed their support of the war, only 14 percent responded affirmatively, while 38 percent expressed no change in their support and 41 percent said that they were more supportive of the war. Mueller (1994, pp. 317–319) also cites public opinion data showing that a majority of the public, both before and after the bunker incident, thought that the United States was making enough effort to avoid collateral damage.
53 Reed, 1999. As a related example, in April 1999, after a U.S. warplane mistakenly hit a refugee convoy, procedures were modified to require that American aircrews over Kosovo radio for authorization before striking military convoys. Elaine Harden and
THE ASYMMETRY OF CONSTRAINTS

These constraints would be challenging even if both sides felt their effect equally. In practice, however, it is often the case that the United States and its allies operate under these constraints while their adversaries do not. This section explores the implications of this asymmetry.

Adversaries will typically be less constrained than the United States and its allies by international legal norms. The United States generally benefits from stability and international order; its adversaries are often interested in overturning that order: “Since law is generally a conservative force, it is more likely to be observed by those more content with their lot.”54 Apart from possible differences in commitment to international norms and preservation of international law in general, some adversaries are likely to view the United States, with its vastly superior military technology, as a manipulator of the law of armed conflict for its own benefit.

Strategic setting is critical to this analysis: What is a small-scale contingency for the United States may be a major war for an adversary. Conflict with the United States may implicate an adversary state’s or regime’s most vital interests and may strain its willingness to remain bound by international legal rules that, at a given time, may favor U.S. military dominance.

Uneven adherence to the law of armed conflict between the United States and adversaries provides these adversaries with manifold opportunities for strategic and tactical exploitation. Adversaries often expect that U.S. political resolve will erode as collateral damage, civilian injury, or U.S. casualties mount, especially when the most vital U.S. interests are not at stake or allied support is shaky.55

Opportunities for exploiting constraints on U.S. operations—opportunities that adversaries have historically seized with some success—

---

expand in the urban environment. Knowing that U.S. planners and operators are obliged to verify their target objectives, adversaries can disperse dual-use sites, camouflage military assets, and otherwise hinder U.S. information-gathering. Knowing that U.S. planners and operators will avoid incidental civilian losses, adversaries can commingle military and civilian assets and persons. And knowing that U.S. planners and operators will avoid attacks likely to cause excessive civilian damage, adversaries can manipulate the media following attacks to portray exaggerated destruction.

In adopting these techniques, adversaries hope that the potential for U.S. casualties or political backlash resulting from anticipated collateral damage will deter U.S. intervention. If the United States intervenes, these techniques aim to confront U.S. planners with a dilemma: refrain from attacking (or attack under extremely tight operational restrictions) certain targets, therefore risking degraded military effectiveness, or attack those targets effectively and risk collateral damage or perhaps higher levels of U.S. casualties.

An adversary’s ability to exploit constraints on U.S. operations depends on a number of factors, including the adversary’s own bases of support, its strategy, and its propaganda capabilities. Autocratic, dictatorial regimes typically maintain tight control over the media. While manipulating the content of information flowing to its own population, these regimes can also influence the timing and, indirectly, the substance of information disseminated abroad by selectively permitting journalistic inspection.

The Viet Cong and North Vietnamese were both notoriously obstructive and invitingly supportive of Western television, depending on the situation. Yugoslav President Slobodan Milosevic displayed a similar pattern of cracking down on independent media each time crises flared with the international community. During NATO’s Operation Allied Force, Milosevic shut down independent newspapers and radio stations inside Yugoslavia, used state-run television to stoke nationalist reactions, electronically jammed some U.S. and NATO broadcasts intended for the Serbian populace, and prohibited

---

the Western press from much of Kosovo (while granting it permission to film bombed sites, especially in major cities such as Belgrade and Novi Sad).

To be sure, the efforts of an adversary to profit from civilian casualties often fail and may even prove counterproductive if the American and international public views the adversary leadership as being at fault. But even when adversary efforts to exploit collateral damage do not result in a tightening of the United States’ self-imposed constraints, they publicly put U.S. policymakers on the defensive and may harden the resolve of adversaries who expect American political will to dissolve.

The characteristics of urban environments discussed earlier—population density, the proximity of civilian and military targets, and shared civilian-military assets—provide adversaries with many opportunities to exploit asymmetrical constraints. The potential for large civilian death or injury tolls, the ease of situating military assets near or camouflaging them among civilian assets, and the intense media scrutiny surrounding incidents of collateral damage facilitate adversary shielding tactics. Evidence from recent conflicts demonstrates the tendency of adversaries to employ such tactics, frequently with some success.

Adversaries often deliberately commingle civilian and military assets or persons in an effort to shield them from attack. In Somalia, U.S. and UN forces frequently encountered hostile militiamen firing from behind women and children. U.S. forces trying to aim at armed threats from the air found that militiamen took advantage of crowded streets to open fire and then disperse or blend into crowds of civilians.57

Using civilian assets or persons to shield military targets is especially easy in urban environments, where civilian objects and persons dramatically increase the risk of collateral damage in any attack from the air. As alluded to above, North Vietnamese forces routinely cap-
talized on public U.S. declarations restricting attacks in densely populated areas by storing military supplies in such places. During the Gulf War and in subsequent U.S. air operations against Iraq, the Iraqi government refused to evacuate civilians known to be situated close to key targets in Baghdad and other cities;\textsuperscript{58} according to the Defense Department’s post-war account, “[p]ronouncements that Coalition air forces would not attack populated areas increased Iraqi movement of military objects into populated areas in Iraq and Kuwait to shield them from attack.”\textsuperscript{59}

The potential to exploit vertical proximity of civilians and military objectives in urban environments can be seen in Palestine Liberation Organization (PLO) practices during the 1982 Israeli incursion into Lebanon. Contravening its legal obligations to segregate the civilian population from military objectives, PLO forces in towns and cities placed artillery and anti-aircraft weapons on top of hospitals and religious buildings, in an effort to negate the technological superiority of the Israeli Defense Forces and Israeli Air Force. Upon retreating to Beirut, some PLO forces allegedly positioned themselves and their military equipment in lower floors of high-rise apartment buildings and forced civilian tenants to remain in upper floors. Civilian injury tolls were substantial, although Israeli forces’ strict ROE often resulted in successful shielding of legitimate PLO military targets.\textsuperscript{60}

Adversaries also routinely take advantage of the special protected status accorded certain types of structures, such as medical or cultural buildings. Members of the PDF used Santo Tomás Hospital for sniper activity in attempting to repel U.S. forces during Operation Just Cause.\textsuperscript{61} A cache of Iraqi Silkworm surface-to-surface missiles were discovered inside a school in a densely populated Kuwait City


\textsuperscript{59}U.S. Department of Defense, 1992, p. 615.


area, and Iraq positioned two fighter aircraft adjacent to the ancient temple of Ur during the Gulf War. During Operation Allied Force, the Yugoslav armed forces reportedly used churches, schools, and hospitals to shield troops and equipment against NATO air strikes, knowing that NATO forces operated under tight ROE and that, even if Serbian practices justified attacks on these targets, NATO planners were eager to comply with international legal restrictions and to avoid potential political fallout from destruction of these sites.

The use of civilian structures, including those with special cultural significance, to shield military targets stems not only from a willingness by some adversaries to breach international norms but also from asymmetries in the costs each side associates with the demolition of those structures. The potential effectiveness of adversary shielding techniques is therefore highly context-dependent. U.S. and Republic of Korea (ROK) forces attempting to dislodge invading North Korean forces from Seoul would likely be far less willing to demolish civilian property than if they were attempting to capture Pyongyang. However, the United States and ROK would probably do so in Seoul if required; the willingness to cause (and in this case, sustain) civilian destruction is partly a product of military necessity.

In MOOTW, such as efforts to maintain order or separate local combatants, strategic demands on planners may place premium costs on destroying civilian property if doing so would inflame local popular resentment. In each of the above cases, the potential efficacy of shielding depends on the relative costs of civilian damage that each side must internalize, as well as the relative commitments of each side to international legal obligations.

As pointed out earlier, human-shield tactics may backfire, particularly if viewed locally or abroad as barbaric. But some adversaries seem willing to bear that risk in the face of otherwise overwhelming U.S. military might.

---

Of the various potential U.S. adversaries, irregular forces are most able to exploit asymmetric constraints. Adherence to the principles of target discrimination becomes much more difficult when there are few, if any, physical markings to distinguish combatants from noncombatants. Moreover, some irregular military organizations may have little or no incentive to adhere to international norms and are, therefore, even more likely to capitalize on the United States’ self-imposed constraints. Testifying to the extent to which adversaries will likely go, some PDF units were trained before Operation Just Cause to disperse, dispose of their uniforms in favor of civilian clothes, and return to Panama City to repel any U.S. intervention or invasion.

Blurred distinctions between combatants and noncombatants complicate target discrimination and facilitate human-shield tactics. For example, in Somalia and southern Lebanon, the UN and Israel, respectively, faced enemy personnel virtually indistinguishable from the heavily armed civilian populace. This fact alone complicates targeting, especially from the air. It also allows enemy forces to blend into civilian crowds, taking advantage of attacking forces’ restrictive ROE or forcing them to risk hitting civilians.

65 *Irregular forces* here refers to guerrilla and militia units and other adversary forces lacking official uniforms and other insignia used to differentiate combatants from noncombatants.

66 It is in part because of the difficulties of applying traditional international legal principles to guerrilla and irregular force contexts that the legal regime sometimes contains different provisions for internal, as opposed to international, armed conflicts. Almost any U.S. operations will involve application of international armed conflict law; this report does not discuss legal issues specific to internal conflicts.

67 The law of armed conflict attempts to regulate these practices, although with little success in balancing the exigencies of counterguerrilla operations with civilian protection. Article 44(3) of Protocol I, for example, states that:

> In order to promote the protection of the civilian population from the effects of hostilities, combatants are obliged to distinguish themselves from the civilian population while they are engaged in an attack or in a military operation preparatory to an attack. Recognizing, however, that there are situations in armed conflicts where, owing to the nature of the hostilities an armed combatant cannot so distinguish himself, he shall retain his status as a combatant, provided that, in such situations, he carries his arms openly:

1) during each military engagement, and
Calculating proportionate military responses is especially vexing against irregular forces, because the blurred distinction between armed foes and civilian bystanders confuses determinations of threats. During a September 1993 ambush of UN forces by Somali militiamen using women and children as shields, U.S. Cobra helicopters shot into the crowd. Italy and other coalition members protested vehemently that the U.S. response was excessive, to which Major David Stockwell, the UN military spokesman, replied: “In an ambush there are no sidelines for spectators.”

The Somalia case also illustrates that nonstate military organizations often have tremendous ability to manipulate domestic and international public opinion, even when they lack monopoly control over state infrastructure. Aideed garnered support both within and outside Somalia by exploiting civilian casualties resulting from engagements with UN forces (many of them attributable in part to Aideed’s deliberate use of civilian crowds to shield his militia personnel), despite the fact that Somalia lacked high-technology communications systems for disseminating propaganda.

CONCLUSION

Legal norms and political pressures will constrain all U.S. military operations. Experience since the Vietnam War teaches that competing concerns of force protection, collateral damage, and other political issues can severely restrict operational flexibility. Air planners face the daunting task of designing strategically effective operations under pressures and duties that partially negate USAF capabilities. But just as policymakers need to understand how tight restrictions they may impose on tactical and operational choices may reduce military potency, military planners need to appreciate that satisfying political and diplomatic demands may be vital to sustained support

2) during such time as he is visible to the adversary while he is engaged in a military deployment preceding the launching of an attack in which he is to participate.


for military operations. In other words, the same restrictions that an operator views problematically as “constraining” may be critical enablers of military options at the highest strategic levels.

These legal and political constraints are tightest, and their effects most magnified, in urban environments. While striving to keep U.S. forces out of harm’s way and design operations sufficiently capable of achieving strategic objectives, planners and operators must avoid unintended civilian injury. Because urban environments are characterized by dense populations and collocated or shared civilian-military assets, the range of available options that satisfy these competing objectives will often be narrow.

Lacking an equivalent degree of commitment to international norms and facing very different political, diplomatic, and strategic exigencies than the United States, adversaries are likely to exploit the asymmetrical constraints to the maximum extent possible. Adversaries operating in urban settings will have tremendous incentive to breach their own legal obligations, hoping to capitalize on the propaganda effects of collateral damage. Furthermore, urban environments provide adversaries with convenient means to do so; the features of urban environments that already pose problems for U.S. planners also facilitate deliberate mingling or camouflaging of civilian and military targets in an effort either to shield military assets from attack or to increase the potential political or resource costs to the United States of hitting them.

An appreciation of these political constraints—from both the U.S. planner’s and operator’s perspective and from the adversary’s—is critical to designing USAF concepts of operation. The unique capabilities of U.S. air forces, enhanced by continued technological advances in key areas, will give the USAF a key role in future urban operations across the spectrum of conflict. The USAF’s contributions will be maximized by tailoring its operational concepts around the legal and political context in which its missions will arise.

Having explored the legal and political constraints associated with urban air operations, we now turn, in Chapter Four, to the challenges associated with detecting and striking targets in the urban physical environment.