Urban Combat Service Support Operations The Shoulders of Atlas

Russell W. Glenn Steven L. Hartman Scott Gerwehr

Prepared for the United States Army

RAND Arroyo Center

Approved for public release; distribution unlimited

The research described in this report was sponsored by the United States Army under Contract No. DASW01-01-C-0003.

ISBN: 0-8330-3466-9

RAND is a nonprofit institution that helps improve policy and decisionmaking through research and analysis. RAND® is a registered trademark. RAND's publications do not necessarily reflect the opinions or policies of its research sponsors.

Cover artwork by Priscilla B. Glenn Cover design by Barbara Caslon Angell

© Copyright 2003 RAND

All rights reserved. No part of this book may be reproduced in any form by any electronic or mechanical means (including photocopying, recording, or information storage and retrieval) without permission in writing from RAND.

Published 2003 by RAND

1700 Main Street, P.O. Box 2138, Santa Monica, CA 90407-2138

1200 South Hayes Street, Arlington, VA 22202-5050

201 North Craig Street, Suite 202, Pittsburgh, PA 15213-1516

RAND URL: http://www.rand.org/

To order RAND documents or to obtain additional information, contact Distribution Services: Telephone: (310) 451-7002;

Fax: (310) 451-6915; Email: order@rand.org

SUMMARY

That urban areas are among the most difficult of environments in which an army operates is historically established and widely recognized. Density explains much of the problem. In most other environments, those who fight on the ground have to concern themselves with a third dimension—the vertical—only in exceptional cases: when an enemy's aircraft threaten, when the adversary has learned to use a forest's trees as effective sniper hides, or when a mountainside provides concealment for the foe. The soldier or marine in a city, however, finds few times when height is not a concern as crucial as depth and width. There is more space to trouble a combatant; his potential problems are distributed over a volume rather than an area. Further, each layer of area within that volume potentially holds a greater density of threats. There are more enemy per unit of space and more friendly force personnel who can be accidentally killed or injured by comrades' fire. The many windows, doors, and other openings from places of concealment together comprise more possible firing positions. And there are more innocent civilians per unit volume, noncombatants whose lives should be spared if at all possible and whose presence therefore immeasurably complicates operations for everyone from the individual rifleman to the leaders managing thousands or tens of thousands of warriors. Many challenges exist even if the mission at hand does not involve combat. Buildings block radio signals, making it difficult to control subordinate unit efforts. Urban navigation is extraordinarily difficult, especially if a unit has only the standard scale military maps that lack the detail necessary to move about in a built-up area. The densely packed civilian population presents myriad mouths to feed or patients to support during humanitarian support efforts.

This closer packing of the consumers of the combat service support (CSS) soldier's services would seem to ease the logistical burden. Logic tells us that the distances between the points requiring support should be shorter. And so they often are, but instead of being dispersed only laterally, their separation is also vertical. Rather than two positions being linked by a short trench, they are separated by walls, buildings, several floors of a building, or a street under observation by an enemy awaiting a target. Two points disconnected by 150 meters in space could be apart by 30 minutes or more in travel time. Delivery of supplies and evacuation of the wounded is therefore lengthened and made more complicated. Transport times tend to be longer despite distances that appear short on a map. Quantities brought forward for distribution may have to be smaller due to the necessity of traveling along routes that traverse holes punched through building walls or the need to manhandle loads up stairwells, which translates to a greater number of trips to deliver the same quantity of supplies than would otherwise be the case.

The authors' previous analysis of the demands confronting a military force during urban operations and the CSS-specific research done in support of this study support the conclusion that CSS operations, like other ground force undertakings, need not undergo fundamental changes simply because the environment is urban. CSS personnel approaching urban tasks will instead be better served by for the most part employing tried-and-true doctrine while:

- Anticipating and adapting to environmental conditions.
- Recognizing that command and control requirements within CSS functional areas and between CSS, combat support, and combat elements should be uniform.
- Maintaining the flexibility essential to overcoming the extraordinary challenges inherent in urban undertakings.

ANTICIPATING AND ADAPTING TO ENVIRONMENTAL CONDITIONS

Developing and maintaining an organization's capability to anticipate and adapt during actions in densely populated areas will require considerable open-mindedness on the part of CSS leaders. On the

one hand, the same decentralization of decisionmaking necessary in maneuver and combat support units is essential for effective provision of logistical and other services. Drivers, medics, and other junior personnel will be those CSS personnel closest to the action. It is they who should be trained to constantly monitor the tactical situation, for conditions often change dramatically during urban operations and these individuals will be in a position to first notice these changes. The same soldiers need to know how to react when the situation is fundamentally altered: how to best continue pursuit of task accomplishment, to whom they should report information of intelligence value, and how to respond when communications fail.

Yet though leaders will most likely adapt by accepting greater decentralization in decisionmaking, the limited availability of many CSS assets will encourage centralized management of these often too-scarce resources. The same structures that interfere with radio communications and global positioning system (GPS) signals separate units from each other. A platoon medic will find himself unable to aid a casualty two squads away; those calling for his assistance will find that rapidly locating or communicating with him may be impossible. Commanders will therefore have to consider heavily weighting front-line units with such low-density capabilities or keeping the assets centrally located in the immediate rear area for dispatch when needed. Habitual CSS task organization relationships and table of organization and equipment (TOE) allocations are likely to prove inadequate to the demands of future urban missions.

RECOGNIZING THAT COMMAND AND CONTROL REQUIREMENTS WITHIN CSS FUNCTIONAL AREAS AND BETWEEN CSS, COMBAT SUPPORT, AND COMBAT ELEMENTS SHOULD BE UNIFORM

Adjustments will be similarly demanded of those responsible for command, control, and communications (C^3) . CSS resources will in most cases require the same radio capabilities, maps or overhead imagery, and intelligence feeds as do other types of units. The porous nature of the urban environment means that even the rearmost areas are vulnerable to attacks by infiltrators or disgruntled civilians. The safety of CSS soldiers as well as their ability to provide adequate support will demand that their leaders have the same level

of situational awareness that has become the norm for soldiers at the line of contact. There is positive payback for the expenditures inherent in better equipping the men and women providing support. As noted, the responsibilities of fuel transporters, drivers, maintenance personnel, chaplains, and many others cause them to travel throughout an area of operations. These individuals are a potentially vital source of intelligence during any type of operation. Properly trained and equipped with the means to determine their location and report what is seen, each such soldier should be viewed as an intelligence-collection asset. CSS C³ responsibilities can include far more complex requirements as well. It might be appropriate, for example, to assign overall responsibility for an operation to a CSS officer if the primary objectives involve support operations, e.g., during a humanitarian relief undertaking.

MAINTAINING THE FLEXIBILITY ESSENTIAL TO OVERCOMING THE EXTRAORDINARY CHALLENGES INHERENT IN URBAN UNDERTAKINGS

An urban environment confronts CSS soldiers with many other extraordinary challenges. Personnel attrition and some materiel consumption rates tend to be higher than in other environments (though few reliable planning factors exist in this regard). Historically, men have too often been killed or wounded in appalling numbers during urban battles. Ammunition, vehicle, and other consumption rates can exceed several times over that found in combat elsewhere. Demands on suppliers will be exceptional even during operations in which combat plays no role. The density of noncombatants requiring support means that transportation, medical, and other unit types can be overwhelmed. It might be advisable to work intimately with coalition nation and private enterprises attempting to achieve similar objectives, dividing functional responsibilities and relying on each other for given capabilities.

CONCLUDING OBSERVATIONS

CSS considerations relevant to the three factors noted above receive an expanded consideration in each chapter of the report. The appendix contains a list of over one hundred observations and recommendations extracted from the main body text for ease of reference. The U.S. Army's combat service support community is currently capable of meeting the most likely mission requirements inherent in operations encompassing hamlets, villages, and small towns. Barring the incidence of combat, it may similarly be able to accomplish assigned support and stability operation-related tasks in larger towns and even small cities should the level of noncombatant support demanded not be overly great. The same is not true should sustained and intense combat play an eminent role during such undertakings or should the area of concern be a major city whose citizens need a significant level of support. The rocket-propelled grenades and small arms fire ubiquitous during most urban combat actions pose lethal threats to support personnel in virtually every CSS vehicle type. There currently exists no means of adequately protecting crews and passengers from these threats, or from the mines so frequently found in built-up areas. Urban planning factors that would help in determining likely personnel replacement rates and class of supply consumption do not exist even in the most basic form. Doctrine needed to guide such planning and other preparations, to include training, virtually ignores CSS urban operations demands. The CSS community is by no means alone. The situation is little better for most components of combat and combat support operations.

The news is not entirely negative, however. As alluded to above, there is no reason to believe that the same doctrine that guides the Army's preparation for peacetime and war actions elsewhere cannot also serve as the foundation for urban undertakings. Similarly, the skills taught during training conducted in other environments holds many lessons for the soldier awaiting commitment to action in a city, town, or smaller built-up area. Service leaders can adapt rather than have to start anew when preparing doctrine, developing training, and otherwise propelling the Army toward an acceptable level of urban preparedness. Though equipment is deficient, sometimes seriously deficient, in its suitability for urban contingencies, the overall quality of those systems and the soldiers that employ them virtually guarantees eventual tactical success during even the most strenuous of operations. But the length of time needed to achieve that success and the number of American casualties suffered will be greater than would otherwise be the case until improvements are made. The gap between existent and potential levels of readiness could be the difference between strategic success and failure.

This analysis does not claim to be comprehensive despite the scope of research and breadth of results. It is merely an introduction, an initial attempt to help move the U.S. Army toward a greater CSS competence to undertake operations in an environment that has become a routine component of any deployment. Each of the many components that together comprise the whole—maintenance and transportation, medical and supply, personnel management and arming, and others equally critical to success—warrant closer scrutiny in determining where they are and what needs to be done so that America's soldiers are prepared for tomorrow's worldwide security challenges.