



US Army Corps
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MOBNET IMPLEMENTATION
PLAN (IMPLAN)

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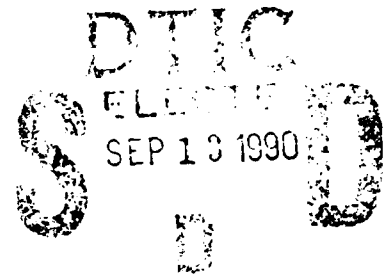
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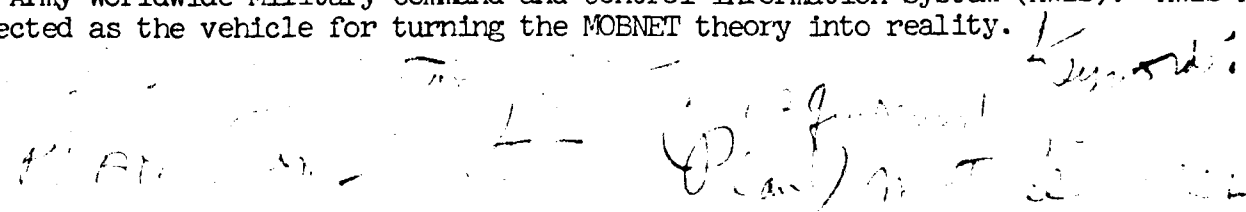
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19. ABSTRACT (Continue on reverse if necessary and identify by block number) This paper lists the fundamental steps which must be taken to implement the MOBNET (Mobilization Network) planning process with the Army. It identifies the agent responsible for executing implementing actions. It anticipates obstacles to full implementation. At a very macro-level, it estimates the costs in resources. And, it sets priorities and defines an overall management strategy. The MOBNET system is represented as a series of eight data bases and an integrating module. The method of presentation was chosen for compatibility with the Army Worldwide Military Command and Control Information System (AWIS). AWIS has been selected as the vehicle for turning the MOBNET theory into reality. 																	
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MOBNET IMPLEMENTATION PLAN (IMPLAN)



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LIST OF ABBREVIATIONS AND ACRONYMS

ADC	Architectural Design Contractor
AIHQ	Ammunition Initial Issue Quantity
ALO	authorized level of organization
AMTP	Army Mission Training Plan
AR	Army Regulation
ARSTAFF	Army Staff
ARTEP	Army Training and Evaluation Program
ATRRS	Army Training Requirements and Resource System
AWIS	Army Worldwide Military Command and Control
	Information System
CAA	U.S. Army Concepts and Analysis Agency
CINC	Commander-in-Chief
CONPLA	contingency plan
CONUS	Continental United States
CONUSA	Continental United States Army
CTU	commander, task unit
DA-CIL	Department of Army Critical Items List
DAIG	Department of Army Inspector General
DARMS	Developmental Army Readiness and Mobilization
	System
DCSOPS	Deputy Chief of Staff for Operations
DCSLOG	Deputy Chief of Staff for Logistics
DESCOM	U.S. Army Depot System Command
DFE	division force equivalent
DOCMOD	document modernization
DOD	Department of Defense
DODAC	Department of Defense Ammunition Code
DSS	decision support system
DTIC	Defense Technical Information Center
EEA	essential elements of analysis
ESC	Engineer Studies Center
EUSA	Eighth United States Army
FLOT	forward line of own troops
FM	Field Manual
FMS	foreign military sales
FORSCOM	U.S. Army Forces Command
GMR	Graduated Mobilization Response
GSF	general support forces
HQAMC	Headquarters Army Materiel Command
HQDA	Headquarters Department of Army

I/E	integration/exploitation
IMPLAN	implementation plan
IPS	illustrative planning scenario
IRR	Individual Ready Reserve
JCS	Joint Chiefs of Staff
JIMPP	Joint Industrial Mobilization Planning Process
JSPD	Joint Strategic Planning Document
JSPDSA	Joint Strategic Planning Document Supporting
.....	Analysis
LIN	Line Item Number
LOGNET	Logistics Network
LOGSACS	Logistics Structure and Composition System
MACOM	major command
MAX	Maximum Army Expansion
MDSS	mobilization decision support system
MESAR	Minimal Essential Security Assistance Requirement
METL	Mission-Essential Task List
MOB-METL	Mobilization Mission-Essential Task List
MOBARPRINT	Mobilization Army Program for Individual Training
MOBNET	Mobility Network
MOBPOI	Mobilization Program of Instruction
MOBTDA	mobilization table of distribution and allowances
MRFS	Mid-Range Force Study
MS	mobilization station
MSSR	Mobilization Station Shortfall Report
MTBOR	Mobilization Training Base Output Requirement
MTBSP	Mobilization Troop Basis Stationing Plan
MTOE	modified table of organization and equipment
MUSARC	Major United States Army Reserve Command
NATO	North Atlantic Treaty Organization
NSC	National Security Council
ODCSOP	Office of the Deputy Chief of Staff for Operations
OPLAN	operation plan
OSD	Office of Secretary of Defense
OWRMR	Other War Reserve Materiel Requirements
PERSCOM	Personnel Command
POC	point of contact
POM	program objective memorandum
POMCUS	prepositioning of materiel configured to unit sets
PTSR	Post-Mobilization Training and Support
.....	Requirement
PWRMR	Prepositioned War Reserve Materiel Requirements

RC	Reserve Component
RCAS	Reserve Component Automation System
REF	Risk Evaluation Force
ROK	Republic of Korea
SACS	Structure And Composition System
SME	subject-matter expert
SOF	special operations forces
SRC	Standard Requirements Code
SSN	Standard Study Number
STRAC	Standards in Training Commission
TAADS	Total Army Authorization Data System
TAEDP	Total Army Distribution Program
TAG	The Adjutant General
TDA	Table of Distribution and Allowances
TDB	theater defense brigades
TOE	Table of Organization and Equipment
TRADOC	U.S. Army Training and Doctrine Command
USAFISA	U.S. Army Force Integration Support Agency
USAISC	U.S. Army Information Systems Command
USALEA	U.S. Army Logistics Evaluation Agency
UTP	Unit Training Packages
WARF	Wartime Replacement Factors
WARMAPS	Wartime Manpower Planning System
WR	War Reserve
WRMR	War Reserve Materiel Requirements
WRS	War Reserve Stocks
WRSA	War Reserve Stocks-Allies
WWMCCS	Worldwide Military Command and Control System

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MOBNET IMPLEMENTATION PLAN (IMPLAN)

I. INTRODUCTION

1. **PURPOSE.** This IMPLAN lists the fundamental steps which must be taken to implement the MOBNET planning process within the Army.

2. **SCOPE.** The IMPLAN--

- a. Assesses the current capability of the Army to generate required MOBNET output.
- b. Identifies who is (or should be) responsible for executing implementation actions.
- c. Identifies obstacles and issues impacting on implementation.
- d. Estimates the costs and level of effort required to implement MOBNET.
- e. Defines and prioritizes the actions required to implement the MOBNET planning process.
- f. Provides an overall implementation management strategy.

3. **BACKGROUND: STATEMENT OF THE PROBLEM.** This section traces the circumstances and events that led to the development of MOBNET and presents the rationale for proceeding with the development and institutionalization of MOBNET.

a. Determining mobilization requirements has always been a difficult task for the Army. However, not until the mid-1980s did planners and decision-makers begin to look closer at requirements determination processes and their impact on Department of Defense (DOD) planning. In January 1988, the President's Commission on Integrated Long-Term Strategy stated in its final report, *Discriminate Deterrence*, "the government needs better ways of spending the money in the current environment of (...stop and go...) budgeting." The Commission believed that DOD should develop the capacity to expand production of critical equipment, and to stockpile long-lead-time items that might represent bottlenecks in a mobilization buildup. They also thought that, with proper planning, United States (U.S.) industry could build sizable surge capabilities from relatively modest investments. The Commission suggested that the *key* to such successful plans *is clearly defined requirements* linked to a coherent national strategy. In particular, the Commission believed that requirements estimates *must* be guided by a long-term strategy if the U.S. is to get the most out of a given budget.¹

b. The Commission's findings supported the results of the Defense Science Board's 1986 review of the acquisition management of conventional munitions. The Board reported that acquisition management by the military services left much to criticize. In particular, it characterized the processes used to determine requirements for stockpiling munitions as

¹Fred C. Ikle and Albert Wohlstetter, *Discriminate Deterrence, The Commission On Long-Term Integrated Strategy's Final Report*, (Superintendent of Documents, U. S. Government Printing Office, January 1988), pp. 61-69.

"flawed at best" and concluded that requirements are understated and underfunded.² The 1986 Defense Science Board review is just one of a long list of government and private sector analyses of DOD mobilization and industrial preparedness planning. **Figure 1** contains extracts of the findings and conclusions from many of these other major analyses.

c. Obviously, a requirements determination impasse has existed for quite some time. With minor exceptions, the statements in **Figure 1** still accurately characterize the state of Army mobilization requirements planning. As long as the impasse continues to exist, the Army will continue to suffer from an inability to effectively--

(1) Comply with stated mobilization planning guidance objectives which explicitly call for the development of sound statements of requirements.

(2) Define the limits of mobilization potential.

(3) Enhance industrial preparedness planning.

(4) Develop "executable" operation plans (OPLANS)--especially those requiring some form of force expansion. The inability to effectively meet these objectives could have serious implications in the future as mobilization planning takes on new significance, emphasizing the changing international security environment.

d. To break the requirements determination impasse and provide a common approach for addressing force expansion and other mobilization issues, the Army published a total mobilization planning concept in 1985.³ This concept called for the creation of a masterplan, or strategy, for transitioning from our peacetime structure through full mobilization, to total mobilization. Paramount to the development of this strategy or plan, was the need to articulate credible requirements to feed the planning process. The inability to accurately forecast mobilization requirements prevents the Army from realistically developing capability-based plans for force expansion and integrating them into mobilization plans. In 1987, the DCSOPS tasked ESC to develop an improved requirements determination methodology to redress this vital planning void. The improved methodology was the MOBNET planning concept.

e. Today, and in the years ahead, the U.S. faces unprecedented challenges in a complex, volatile, and unpredictable world--challenges that necessarily demand quick analysis of requirements data. As the Army decreases in size, it will still have to rely on its ability to mobilize and expand should circumstances require it. The ability to demonstrate conventional mobilization potential is, unquestionably, a major component of deterrence. As conventional deterrence takes on new meaning and added significance today, and in the years to come, the process of defining U.S. conventional mobilization potential will also take on greater importance.

f. In order to design MOBNET, ESC conducted four comprehensive, base-line studies to define the gaps, weaknesses, deficiencies, and bottlenecks inherent in current Army requirements estimation processes. These studies were conducted under an umbrella project,

²David Kassing, *Assessment of Munitions Planning by the Services* (The RAND Corporation, January 1987), p. iv.

³The concept was developed in 1985 by the DCSOPS, Gen. Carl Vuono, and can be found in Chapter IX ("Total Mobilization"), Volume III ("Mobilization and Deployment Guidance") of the *Army Mobilization and Operations Planning System (AMOPS)*, (Headquarters, Department of the Army, ODCSOPS, 15 April 1988).

YEAR	ENTITY	COMMENT
1952	Army Field Manual 101-53	Consideration of the relationship of the mobilization plan to the war plan and to program development inevitably brings up the problem of requirements versus capability.
1970	Joint Logistics Review Board	...poor mobilization requirements...
1976	Defense Science Board	...inadequate industrial mobilization planning...
1980	Ichord Committee	If we plan for a short war and make no plans for a long war, then surely all future wars will be short.
1980	Defense Science Board	...lack of an adequate basic industrial capacity based on inadequate government [requirements] planning...
1983	Mobilization Concepts Development Center	...persistence of the difficulty in defining requirements
1984	Army Logistics Management Center	The Army has no prescribed systematic method or procedure for computing, submitting, reviewing and validating mobilization materiel requirements.
1986	Mech/Armor Production FAA	...lack of authoritative industrial mobilization requirements undermines the current mobilization planning system.
1987	OSD Management Study Team	Requirements are the baseline for setting equipment and materiel acquisition and industrial base funding objectives.
1988	Air Force Association	Government programs fall far short of answering the requirements of the U.S. industrial base.

Figure 1. SELECTED COMMENTS FROM PAST REPORTS

"Mobilization Requirements for Industrial Preparedness Planning". The studies produced a number of key findings which served as the basis for the development of the MOBNET planning process, outlined in a fifth report. The findings of each of these studies are briefly capsulized below and represent the salient factors which had to be considered in developing MOBNET and the IMPLAN.

(1) *REPORT #1: Assessment of the Methodologies for Determining Materiel Requirements for the Current Force*⁴ evaluated how the Army estimates its ammunition and equipment requirements for equipping and sustaining the current force in the event of full mobilization.

KEY FINDINGS:

(a) Virtually all of the systems currently available to planners for computing requirements are designed to support only peacetime programming and budgeting of the current force. These systems have little, if any, capability for accurately estimating mobilization requirements for the expanding force. Little effort is expended by the Army in categorizing future mobilization requirements beyond those to equip and sustain the current force.

(b) Wartime replacement factors and ammunition consumption rates are inconsistent and improperly applied in determining sustainment requirements. This creates inaccuracies and inconsistencies in requirements data, but their use continues because no other, more appropriate, rates have been generated. The rates used to define mobilization requirements to support U.S. forces after the first six months of the conflict are inaccurate, and possibly cause requirements to be understated. Rates are developed for particular theaters of operation and may not be applicable to new threat environments. A debate over rate credibility has existed for quite some time. Rates need to be developed in a credible manner and accepted by all within the planning community. DAMO-FDL is reviewing the means by which the Army develops its ammunition and consumption rates.

(c) Although the Department of the Army Critical Items List (DA-CIL) documents particular wartime requirements, it fails to consider the materiel requirements needed to support an expanded force, the continental United States (CONUS) base, other services, and U.S. friends and allies. This limits the utility of the DA-CIL as a total mobilization planning tool.

(2) *REPORT #2: Army Materiel Requirements to Support the Continental United States Military Mobilization Base Structure*⁵ evaluated the systems and methods the Army now uses to estimate how much ammunition and equipment will be needed by the CONUS base to successfully complete its mission during a conventional global war.

KEY FINDINGS:

(a) Mobilization Tables of Distribution and Allowances (MOBTDA) define

⁴Assessment of the Methodologies for Determining Materiel Requirements for the Current Force (SECRET-NOFORN), (CEESC Report R-89-7, June 1989).

⁵Army Materiel Requirements to Support the Continental United States Military Mobilization Base Structure (UNCLASSIFIED), (CEESC Report R-90-2, October 1989).

CONUS-base materiel requirements for non-deploying Army units. All components of the CONUS-base share common problems in defining, quantifying, and documenting their MOBTDA requirements. Many MOBTDA have not been validated.

(b) The MOBTDA development process does not incorporate planning for force expansion. Before any component of the CONUS-base can quantify its requirements to support force expansion, the number and types of units comprising the required expanded force must be defined and fed into the MOBTDA development process.

(3) *REPORT #3: Determining Materiel Requirements for Force Expansion*⁶ dealt with the critical need to plan for expansion of the U.S. Army to support total mobilization planning objectives and suggested systems and methods for determining expansion requirements.

KEY FINDINGS:

(a) Very little is being done within the mobilization planning community to comply with national-level, national security decision and emergency planning documents, which call for the Army to develop credible estimates of requirements to support total mobilization planning.

(b) There are five fundamental actions which must be completed in order to determine the total amount of materiel needed to adequately equip, train, and sustain an expanded fighting force. They include--

- The identification of each unit comprising the force.
- The calculation of equipment and Ammunition Initial Issue Quantity (AIQ) requirements for new units comprising the force.
- The calculation of the requirements to support institutional training for these new units.
- The calculation of the requirements to support forces training for these new units.
- The development and application of credible consumption and attrition rates needed to identify sustainment requirements.

Today, most of these actions cannot be conducted in a sound manner--precluding planners from computing credible force expansion requirements. In those cases where requirements are developed, they are developed as the result of manual, "stubby-pencil" analysis of data of questionable accuracy and validity.

(c) The sources of a substantial portion of *training requirements* data have not been identified, validated, standardized, or automated.

⁶Ibid.

(d) Since the mid-1980s, many military and civil agencies have developed, or are in the process of developing, new systems to enhance mobilization planning--including total mobilization planning. The Joint Industrial Mobilization Planning Process (JIMPP), the Graduated Mobilization Response (GMR) concept, the Maximum Army Expansion Plan (MAX), and decision support systems (DSSs) being developed by the Army major commands (MACOMs) are just a few of these new and emerging systems. Millions of dollars have been spent on the development of these systems. Ultimately, these efforts will lead to comprehensive and time-phased requirements listings that can be used to allocate resources and plan for industrial base expansion, conversion, and protection on a national scale. However, *the ultimate success of these systems will be determined, in no small manner, by the validity and accuracy of the baseline requirements data slated to be exploited by each system.* This fact, perhaps more than any other, underscores not only the need to establish MOBNET as an Army planning tool, but also the need to improve the validity, accuracy, and standardization of requirements data throughout DOD.

(4) *REPORT #4: Wartime Support of U.S. Friends and Allies: An Assessment of the Planning Environment*⁷ evaluated the existing and potential methods of estimating the wartime materiel support demands of U.S. friends and allies.

KEY FINDINGS:

(a) Theoretically, the Army's requirement to sustain the fight should be the sum of what its forces need and what important allied forces require. The success of any operation, contingency, or military plan with a coalition element, depends on how well all the partners in that coalition can sustain themselves. To evaluate whether a coalition risks collapse because it lacks sufficient materiel resupply, planners must first determine the upper-limit of how the U.S. resupply system will be stressed under a full range of regional and global scenarios. Planners must, therefore, estimate the "worst case" resupply demands of U.S. friends and allies, then add those demands to the U.S. requirement.

(b) By comparing this combined requirement to available resources of reserve stocks and industrial capability, planners can evaluate the risk of either supporting or abandoning a coalition partner. Such risk analyses must be done if Army industrial planners are to make the right decisions about what resources to create, expand, or remove from the existing Army-managed industrial base for Class V and VII materiel.

(5) *REPORT #5: Army System for Mobilization Requirements Planning: Supply Classes V and VII (Ammunition and Equipment)*⁸ outlined an improved requirements determination methodology--the MOBNET planning process.

KEY FINDINGS:

(a) The Army cannot demonstrate convincingly the amount of materiel it requires to mobilize and fight a long-term conventional war. Although it does a good job of

⁷*Wartime Support of U.S. Friends and Allies: An Assessment of the Planning Environment* (SECRET-NOFORN-WNINTEL-NOCON), (CEESC Report R-89-6, February 1989).

⁸*Army System for Mobilization Requirements Planning: Supply Classes V and VII (Ammunition and Equipment)* (UNCLASSIFIED), (CEESC Report R-90-3, October 1989).

estimating the materiel requirements to mobilize and fight the current force over the short run, the Army has no credible process to measure similar requirements for an expanding force fighting over the long term.

(b) The lack of automation places a substantial staff burden on those asked to contribute data for analyses. The burden imposed by the lack of automation is most evident in the training management processes at Training and Doctrine Command (TRADOC) and U.S. Army Forces Command (FORSCOM). Currently, estimates of aggregate requirements are obtained manually at considerable cost in staff resources. These data are clearly candidates for automation--not just for mobilization planning reasons but also for day-to-day operational support needs. Significant amounts of data needed by MOBNET already exist and are used to support other systems. However, much of the data requires further manipulation or reformatting to be useful to the MOBNET processes.

(c) In the areas of force expansion and long-term conventional warfare, much of the Army's planning is based on conjecture or inappropriate generalizations of requirements. The Army may have legitimate concerns about the ability of the nation's industrial base to support long-term conventional wars. However, in response to Congressional requests for data to support requests for funding improvements to the industrial base, the Army offers little more than supposition. A requirements determination methodology, like MOBNET, that leaves a trackable audit trail of how and why requirements were developed should greatly assist all requests for funding.

(d) Comparing requirements to industrial capability to define mobilization potential should be an essential part of the process of formulating national military strategy. If the industrial base is incapable of supporting existing war plans, then national alternatives are pretty clear. We can--

- Allocate resources to improve the wartime posture of the industrial base--adding production lines, increasing war reserves, enhancing the capacity of existing production lines, or buying access to foreign sources of production.
- Limit the nation's strategic objectives and, thereby, restrict its exercise of military power so as to conform to the production limits of the industrial base.
- Blindly continue planning to accomplish strategic goals with military forces which cannot be supported by the industrial base.

g. Collectively, these reports unequivocally document the need for a coherent system to determine requirements. They show that the Army currently has no way of accurately determining how much materiel it will need to train, equip, or sustain an expanded force--not only the new formations deploying to a theater of operations but also those remaining within the boundaries of the United States. Additionally, they show that Army planning fails to consider the possible requirements to support non-U.S. forces whose survival is crucial to the nation's objectives. Either requirement, taken alone, could levy a large, perhaps impossible, demand on the industrial base. Ignoring either one of them when determining potential requirements presents a distorted picture of the total demand on the U.S. industrial base in wartime. The ESC studies also provided detailed recommendations for redressing the requirements planning void. These recommendations were used to develop the outline MOBNET planning concept.

h. The continued development and eventual institutionalization of comprehensive military mobilization planning systems and processes like JIMPP, GMR, MAX, and MOBNET, will enable planners to calculate the specific resources required to meet mobilization requirements and develop procedures for allocating or reallocating resources. Resultant contingency plans will be more realistic and require less amendment during periods of crises. Improved plans will ultimately facilitate the development of more credible options for the President. Under Executive Order 12656, military requirements must also be passed to Federal civilian agencies to influence national plans for increasing private sector production of raw materials, semi-finished commodities, components, and end items.⁹ Other Federal agency planning in support of military mobilization will be better able to provide for the availability of specific resources to meet mobilization materiel requirements once MOBNET, a credible method for determining materiel requirements, is established within the Army.

4. IMPLAN DEVELOPMENT APPROACH. This paragraph describes how ESC approached the development of the remaining portions of this IMPLAN and examines the actions and steps which must be taken if MOBNET is to become a legitimate, effective, and efficient Army planning tool. **Figure 2** outlines the ten-step methodology ESC used to develop the IMPLAN.

a. **Step 1:** Determine the essential elements of analysis (EEA). ESC and DCSOPS-ODM decided that the following EEAs should serve as the basis of the MOBNET IMPLAN:

- (1) Who is the responsible proponent for executing the actions defined in the decision points embodying MOBNET?
- (2) What is the current capability of the Army to generate MOBNET output?
- (3) What actions are required to eliminate capability shortfall?
- (4) What are the major obstacles to implementing MOBNET?
- (5) What are the estimated costs for implementing MOBNET?
- (6) Are there current or programmed initiatives which impact MOBNET implementation?
- (7) What should MOBNET implementation priorities be?
- (8) What is the estimated time frame for getting MOBNET up and running?

b. **Step 2:** Identify a Point of Contact (POC) in each Army MACOM to work with ESC in identifying key players and subject-matter experts (SME) who could provide specific, detailed answers to the EEA listed in **Step 1**.

⁹Assignment of Emergency Preparedness Responsibilities, "Executive Order 12656 of November 18, 1988," Federal Register, Vol. 53, No. 226, November 23, 1988), pp. 47497-9.

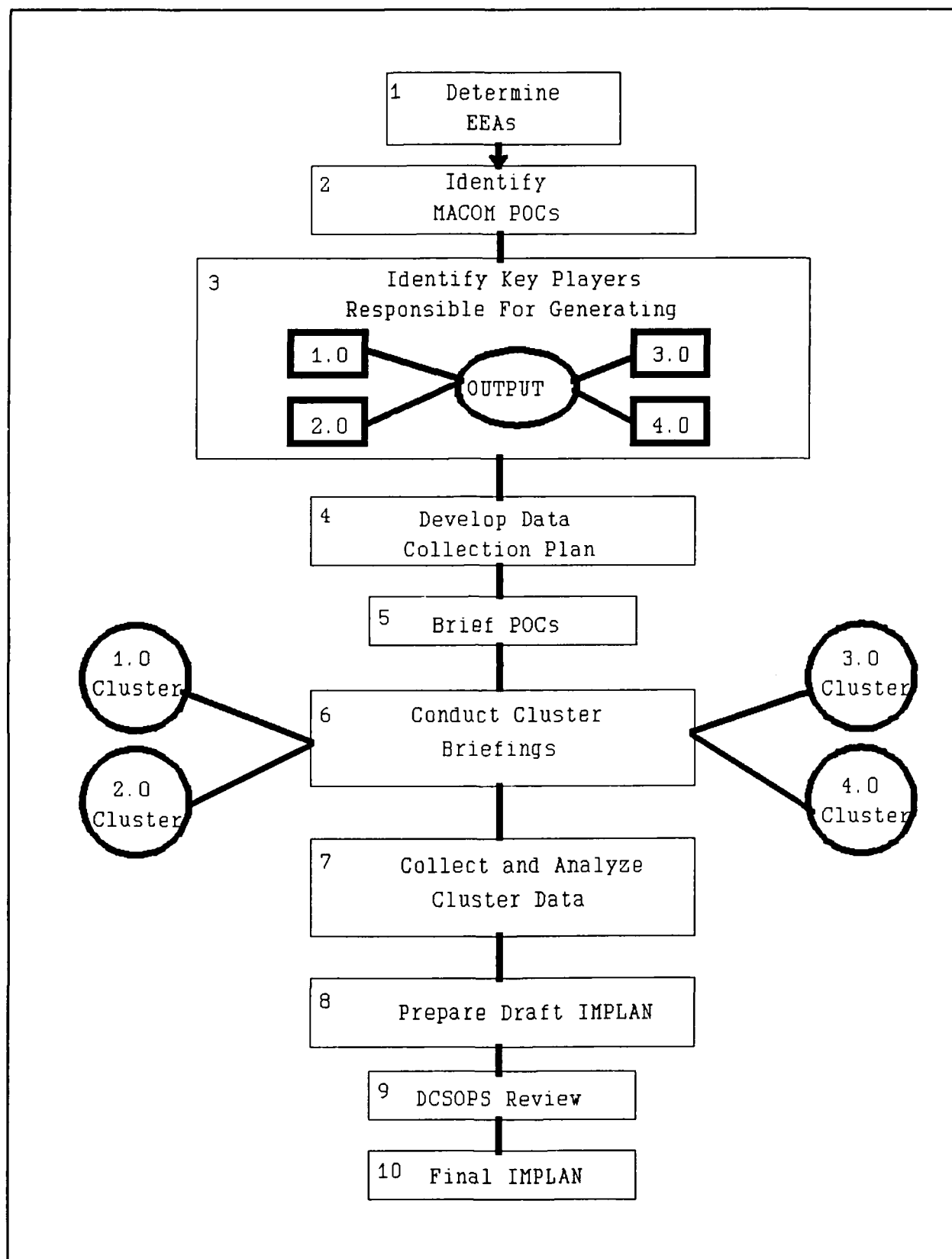


Figure 2. MOBNET IMPLAN DEVELOPMENT APPROACH

c. **Step 3:** Identify key players and SMEs responsible for generating required output in the four basic functional components of the MOBNET planning process. These four components are theater force design (1.0), determining the requirements to equip, train and sustain these forces (2.0), CONUS Base force design (3.0), and coalition force design (4.0).

d. **Step 4:** Develop a data collection plan. ESC developed a questionnaire designed to generate much of the data it would need to write the remaining portions of this IMPLAN. The complete questionnaire can be found in **Annex B** of this report.

e. **Step 5:** Brief the MACOM POCs. ESC briefed the POCs on 17 January 1990, on both the MOBNET and the approach for developing the IMPLAN.

f. **Step 6:** Conduct cluster briefings. ESC conducted three such briefings. The first was at TRADOC on 14 February 1990. The second was at the U.S. Army Concepts Analysis Agency (CAA) on 20 February 1990. The third briefing was conducted at FORSCOM on 28 February 1990. The purpose of these briefings was to--

- Brief MOBNET and the IMPLAN project.
- Conduct working sessions with key players, SMEs, and functional proponents.
- To distribute questionnaires and answer questions.

g. **Step 7:** Collect and analyze cluster data. The results of this analysis are provided in Section II of this report.

h. **Step 8:** Prepare a draft IMPLAN.

i. **Step 9:** Provide IMPLAN to ODCSOPS for staff review.

j. **Step 10:** Submit final draft of the IMPLAN to sponsor.

II. A TWO-TRACK APPROACH TO MOBNET DEVELOPMENT

5. WHY A TWO-TRACK DEVELOPMENT APPROACH?

a. General.

(1) The entire MOBNET framework is displayed in 13 charts which comprise Annex A of this report. The structured analysis approach which ESC applied in developing the 13 charts enabled us to decompose the interrelationships identified within the charts into logical segments to facilitate clarity and understanding. The 13 charts were designed to meet two key objectives:

- To depict the relationships between the various DSSs, data bases, and calculation processes embodied in MOBNET.
- To help identify areas where additional work was needed to define, capture, process, or disseminate the information needed to determine requirements.

The first objective was met and facilitated concept approval at the Army Staff (ARSTAF)-level, which resulted in ODCSOPS tasking ESC to develop a MOBNET IMPLAN. The second objective was met through command visits, interviews, and questionnaires (see Annex B) distributed to the subject-matter experts. They were asked to identify the actions to be undertaken by the Army to attain full MOBNET operational capability.

(2) At first glance, the MOBNET system may appear extremely complex. However, closer examination of the 13-chart framework reveals that the process of determining mobilization requirements for Class V and VII items embodies two tracks. The first track involves the development of base-line requirements source data. The second track involves the development of the means for properly integrating and exploiting this data to produce complete statements of requirements.

(3) Viewed in this manner, successful implementation of MOBNET becomes, unquestionably, a function of the degree to which serious Army commitment and focus is applied to--

- The development of credible (i.e., accurate, standardized, and automated) base-line data needed to support the mobilization requirements determination process.
- The establishment of an integration/exploitation (I/E) element capable of assimilating this data and using it to generate complete statements of requirements.

b. Track I: Development of Base-line Requirements Source Data.

(1) ESC's comprehensive study of the Army's requirements determination practices and objectives determined that eight sets of base-line requirements source data need to be developed. They must be available to planners responsible for calculating complete,

comprehensive statements of requirements. Once these sets of data are developed, they must be automated and configured into separate files in order to be assimilated into the I/E element. These eight files are:

(a) **File #1: Theater Table of Organization and Equipment (TOE) Forces Data.** This data file would consist of a list of all theater TOE forces (by type unit) required to meet military objectives associated with a given threat scenario.

(b) **File #2: CONUS-Base (TDA) Forces Data.** This data file would consist of a list of all CONUS-base TDA forces (by type unit) required to support mobilization of the TOE force identified above.

(c) **File #3: Equipping/Ammunition Initial Issue Data.** This data file would consist of TOE and AIIQ data identifying the specific Class V and VII (equipment and ammunition) materiel (by line item) required by the unit to achieve a specified readiness category (C-rating).

(d) **File #4: Current Forces Post-Mobilization Training Data.** This data file would consist of a list of Post-Mobilization Training and Support Requirements (PTSR--by line item) for Class V and VII materiel for the Reserve Components (RC).

(e) **File #5: New Unit Institutional Training Data.** This data file would consist of Mobilization Training Base Output Requirement (MTBOR) and Mobilization Program of Instruction (MOBPOI) data. This data identifies, respectively, the number of soldiers that must be trained in all skill categories and the Class V and VII requirements (by line item) to train these soldiers during mobilization.

(f) **File #6: New Unit Forces Training Data.** This data file would consist of Class V and VII requirements (by line item) needed to support forces training for new units which would have to be created in the event of force expansion.

(g) **File #7: War Reserve Data.** This data file would consist of a list of sustainment requirements for Class V and VII items.

(h) **File #8: Coalition Force Data.** This data file would consist of a list of potential Class V and VII requirements to support coalition forces critical to the success of military objectives.

c. Track II: Establishment of a Data I/E Element.

(1) The I/E element accomplishes two tasks. First, it assimilates the data files identified above and inputs this data into a system (e.g., Logistics Network (LOGNET), Army Worldwide Military Command and Control Information System (AWIS), that can help accomplish the second task of the I/E element--the actual calculation of complete mobilization requirements. ESC believes that the actual calculation of mobilization requirements for Class V and VII should be centralized within the ARSTAF.

(2) Today, the computation of requirements is decentralized within the Army. The methods currently used to calculate requirements are not performed credibly or consistently and the people performing them have to originate many of the methods each time the Army

calls for requirements. This causes problems and leads to the unacceptance of requirements statements.

(3) The I/E element provides a mechanism to break down the bureaucratic barriers which prevent the sharing of data.

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III. QUALIFYING AND QUANTIFYING IMPLEMENTATION DATA

6. QUALIFYING AND QUANTIFYING IMPLEMENTATION ACTIONS.

a. **Method.** ESC used the approach defined in Section I to collect implementation data. The results of the questionnaires sent to Army subject-matter experts, coupled with follow-up discussions and the recommendations of prior studies, represent the body of information which was quantified and assessed. This was necessary in order to define the actions which constitute the initial activities that must be undertaken by the Army to implement MOBNET (i.e., to develop the data files and the I/E element).

b. **Information Categories.** The implementation information collected by ESC answers the following six questions about the eight data files and the I/E element.

- (1) Who is or should be responsible for developing each?
- (2) What is the extent to which the Army can currently develop them?
- (3) What are the shortfalls and obstacles which currently preclude the Army from developing them?
- (4) What are the actions constituting the initial activities which need to be undertaken and developed by the Army?
- (5) What are the resources and costs associated with implementing MOBNET?
- (6) What issues are there, if any, which may impact the implementation of any action deemed necessary to achieve full development of them?

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IV. TRACK I IMPLEMENTATION ASSESSMENT

7. **ASSESSMENT PRESENTATION FRAMEWORK.** In paragraphs 8 to 16 following, ESC uses the framework outlined in **Figure 3** to synthesize the specific implementation information associated with each of the eight base-line requirements source data files. This same framework is also used in Section V, *Track II Implementation Assessment*.

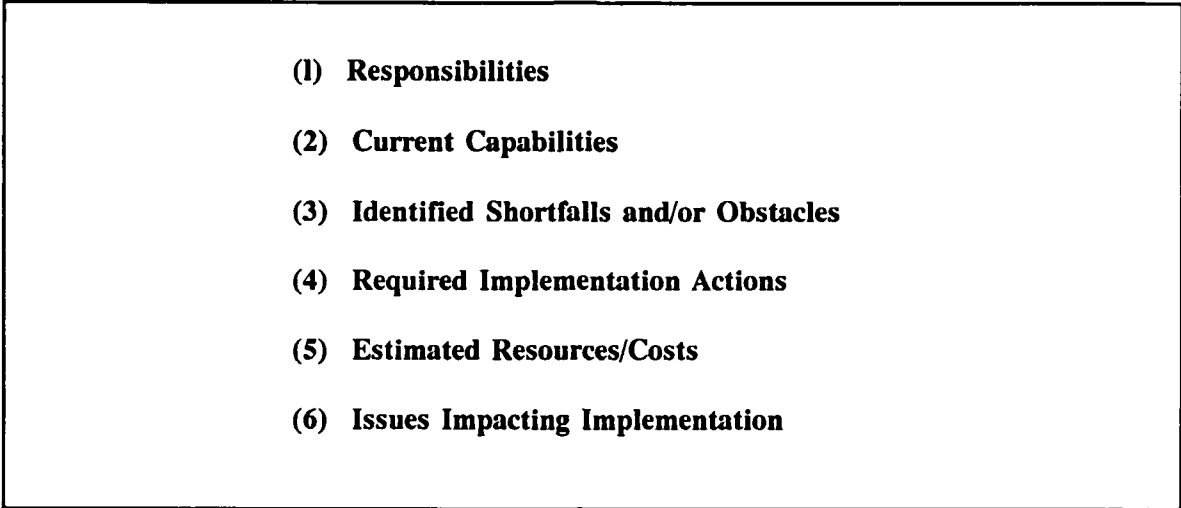
- 
- (1) **Responsibilities**
 - (2) **Current Capabilities**
 - (3) **Identified Shortfalls and/or Obstacles**
 - (4) **Required Implementation Actions**
 - (5) **Estimated Resources/Costs**
 - (6) **Issues Impacting Implementation**

Figure 3. ASSESSMENT PRESENTATION FRAMEWORK

a. **Responsibilities.** This subparagraph will explain who, within the Army, has, or should have, responsibility for undertaking the actions required to develop the specific data file being addressed or the I/E element.

b. **Current Capabilities.** This subparagraph will summarize the current capability of the Army to develop the specific data file being addressed or the I/E element.

c. **Identified Shortfalls and/or Obstacles.** This subparagraph summarizes information obtained from the field or from prior ESC reports which identify shortfalls in MOBNET development capability and/or specific obstacles. They currently preclude the Army from developing the specific data file being addressed or the I/E element.

d. **Required Implementation Actions.** Proceeding from the implementation shortfalls and obstacles, this subparagraph describes what actions have to be taken by the Army in order to develop the specific data file being addressed or the I/E element.

e. **Estimated Resources/Costs.** This subparagraph discusses the resource and cost implications for each of the implementation actions.

f. **Issues Impacting Implementation.** If there are any major issues that impact the development or implementation of the specific file being addressed or the I/E element, such issues will be discussed in this subparagraph.

8. FILE #1: THEATER (TOE) FORCES DATA.

a. General.

(1) This data file will consist of a list of all TOE and/or MTOE data for all theater forces (by type unit) required to meet national military strategy associated with a given threat scenario. TOE are requirements documents and provide five options for manning and equipping tactical organizations (i.e., levels 1, 2, and 3, cadre and category B). MTOE is an authorization document that prescribes the modification of a basic TOE necessary to adapt it to the needs of a specific unit or type of unit. MTOE are used to describe the resource requirements and authorizations of combat, combat support, and combat service support units. MTOE contain only military personnel and equipment with standard Line Item Numbers (LINs). TOE and MTOE are requirements source documents.

(2) The Army requires the annual development of force requirements and capabilities assessments to support preparation of the Joint Strategic Planning Document (JSPD). This analysis provides support for biennial development of the Army's input to the Joint Strategic Planning Document Supporting Analysis (JSPDSA) Part II, Analysis and Force Requirements.

(3) The JSPDSA provides the analytical basis to develop the rationale and provide the force structure required to attain the national security objectives of the nation. It is this force structure which has been identified as the "mark on the wall" against which mobilization requirements must be determined to support Army and DOD mobilization resources planning. The MOBNET system was developed to enable the Army to identify the materiel requirements associated with this theater force and its supporting forces to support the JIMPP and the GMR planning system.

(4) In FY 1983, in an attempt to enhance the transition from the relatively unconstrained world of requirements to the world of constrained resources, a single methodology was developed and used for the first time to produce the Army Planning Force--now referred to as the Risk Evaluation Force (REF).

(5) The Army REF is the military department's estimate of the forces required to execute the national military strategy against the threat projected for the end of the mid-range period defined in the JSPD. The Army REF provides the following:

- (a) The goal or point of departure for defining major forces for the Army Program.
- (b) A benchmark for assessing capabilities and risks of the program and current forces.
- (c) A benchmark to measure the resource gap created by strategic requirements/capabilities mismatch.
- (d) The objective for mobilization/wartime growth of the force.

(6) Creation of the Theater (TOE) Force Data File is imperative for MOBNET success. It is this file which drives the requirements determination process. The number and types of theater forces deployed to one or more theaters directly determines the majority of the requirements for Class V and VII items needed to equip, train and sustain U.S. forces. Furthermore, the theater forces comprising the REF heavily influence the determination of CONUS-base and force expansion training requirements. How the data in this file is used in combination with the other data files to calculate requirements is discussed in detail in paragraph 15.

b. **Responsibilities.** At the present time, the Joint Strategic Planning System requires the Army to develop its slice of the joint force structure needed to accomplish the national strategic objectives of the U.S. The structure of this force is articulated in the JSPD. The Army DCSOPS has regularly directed the CAA to conduct a Mid-Range Force Study (MRFS) to provide the analytical basis for meeting the Army requirement to develop its slice of the REF. ODCSOPS and CAA share the primary responsibility for determining the number and types of units comprising the REF. Therefore, it naturally follows that ODCSOPS and CAA should be responsible for producing the Theater (TOE) Force Data File.

c. **Current Capabilities.**

(1) CAA's MRFS produces theater force troop lists by Standard Requirements Code (SRC), type unit, and title of unit. It also includes the number of specific type units required to provide reasonable assurance of success in meeting the national military strategy associated with the *Defense Planning Guidance*, Illustrative Planning Scenario (IPS). However, MRFS was not developed to address mobilization planning issues as much as it was to address force planning issues. Because of this fact, MRFS has been primarily concerned with identifying theater forces in a notional sense.

(2) The CAA capability is currently focused on the three theaters of the Global scenario of the new IPS. A capability also exists for determining force structure for AFNorth, AFSouth, Hokkaido and Hokkaido-Sakhalin. Other regions have been done in the past but the capability is not current. Additional regions would require extensions of the methodology and additional data would be required to include terrain decks, transportation nets, and other specific data for other scenarios or theaters. Additional scenarios are developed as requirements arise.

d. **Identified Shortfalls and/or Obstacles.** MRFS has been traditionally concerned with the divisional forces of the Army, specifically, division force equivalents (DFE). The study does not specifically address special operations forces (SOF), general support forces (GSF) or theater defense brigades (TDB). Again, the Theater (TOE) Force Data File must include the number and type of *all* units comprising the REF--not just DFEs. Although MRFS does not specifically define these units, CAA does have the capability to define SOF and TDB units by SRC by extrapolating data from other studies or sources available to CAA analysts. GSF units are elements of the sustaining base, also called TDA units in this study, which must provide the necessary resources in CONUS to support mobilization and expansion of the theater force. Consequently, the number and types of TDA units are discussed in paragraph 9.

e. **Development of the Theater (TOE) Forces Data File.** Development of this file should not be a problem for the Army so long as the REF is based on a scenario involving

(6) Creation of the Theater (TOE) Force Data File is imperative for MOBNET success. It is this file which drives the requirements determination process. The number and types of theater forces deployed to one or more theaters directly determines the majority of the requirements for Class V and VII items needed to equip, train and sustain U.S. forces. Furthermore, the theater forces comprising the REF heavily influence the determination of CONUS-base and force expansion training requirements. How the data in this file is used in combination with the other data files to calculate requirements is discussed in detail in paragraph 15.

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e. **Development of the Theater (TOE) Forces Data File.** Development of this file should not be a problem for the Army so long as the REF is based on a scenario involving

conflict in one or more of the traditional theaters of operation. If threat scenarios change drastically and the need arises to model possible conflict in areas of the world outside the traditional theaters of operation, the capability to produce force lists may become more difficult.

(1) **Required Implementation Actions.** Obviously, the first and most important implementation action required is for ODCSOPS to task CAA to produce the file. Second, CAA needs to extrapolate information from the latest MRFS required for the MOBNET file. Third, CAA needs to define the TDB and SOF units comprising the REF and then add these units to the MFRS-generated divisional units. Fourth, CAA must provide this file to the I/E element so it can be used in conjunction with other data files to produce complete statements of requirements.

(2) **Estimated Resources/Costs.** Because CAA performs MRFS on a recurring basis to support the force planning process, there is no need to fund a separate MRFS to support the mobilization requirements determination process. The cost of defining TDB and SOF units is negligible because CAA can easily define these units for MOBNET purposes by extrapolating data from other readily available sources. The CAA study program supports the capability for a limited number of theaters and additional resources would be required to extend it to additional theaters. The current unsettled international security environment will cause changes in the IPS. Once the dust settles, CAA will collect data and adapt models to run under new scenarios and theaters. Such an effort would take about 12 to 18 months. According to CAA, solving the problem of the limited number of theaters supported would require that a valid requirement exist for analysis of other theaters and scenarios and that funds be made available for expanding the methodology and gathering data.

f. **Issues Impacting Implementation.** MOBNET can use existing CAA systems and models like CEM and FASTALS, which support the development of MRFS. The credibility of deliberate peacetime planning is directly related to the credibility of the data used to feed the systems which support the planning process. The systems and models used today to support Army planning have been built to respond to decision- and policy-makers' concerns and questions regarding the military threat to the U.S., emanating in three traditional theaters of operations. If the threat is changing, now is the time to amass the source data required to expand our capability to analyze non-traditional theaters of operation.

9. FILE #2: CONUS-BASE (TDA) FORCES DATA.

a. General.

(1) This data file will consist of a list of all TDA and MOBTDA information associated with nondeploying CONUS-based forces required to support the mobilization and deployment of the TOE force discussed in the previous paragraph. A TDA is a document which prescribes the organizational structure, personnel and equipment authorizations, and requirements of a nondeployable unit to perform a specific mission for which there is no appropriate TOE. TDAs describe the resource requirements of fixed support units, and may contain civilian personnel and commercial equipment.

(2) As Figure 4 shows, today's Army workforce is 66 percent military and 34 percent civilian. Fifty-three percent of these personnel are assigned to TDA units; 47 percent are assigned to TOE units. Whereas TOE units deploy to a theater of conflict, TDA units remain within CONUS and provide the support services necessary to equip, train, deploy and sustain theater TOE forces.

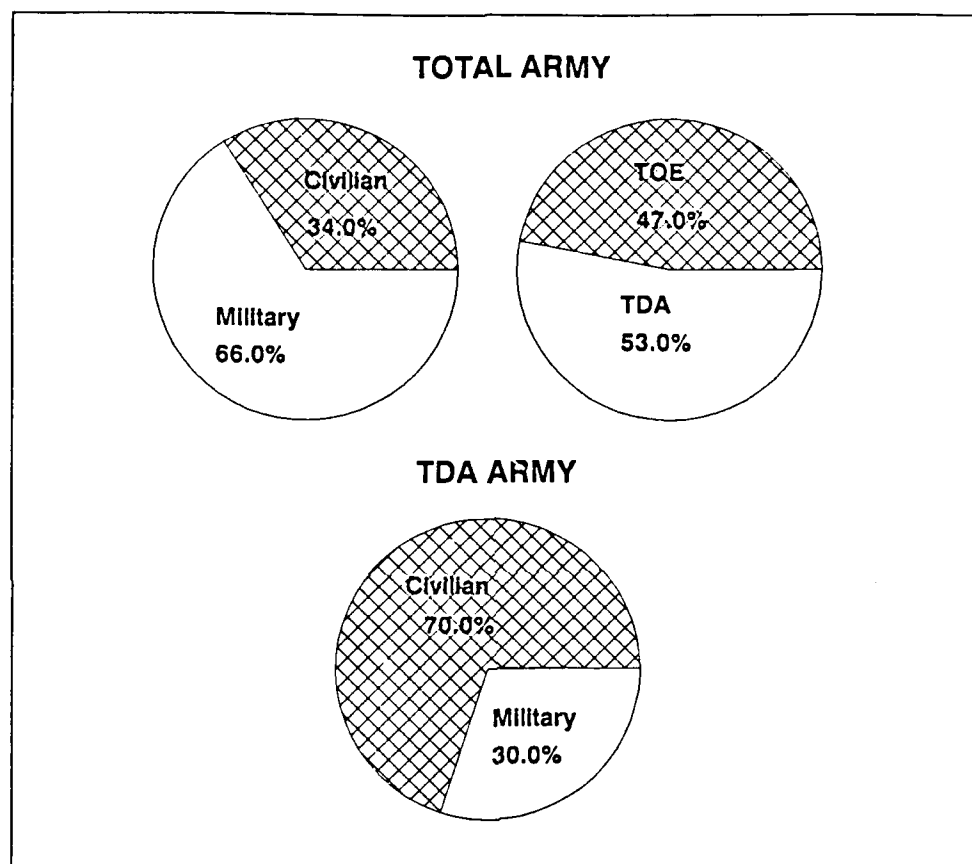


Figure 4. DISTRIBUTION OF ARMY MANPOWER

(3) For mobilization planning purposes, it is the MOBTDA authorization document that records the mission, organizational structure, personnel and equipment requirements for an Army unit to perform its assigned mission upon mobilization. The MOBTDA reflects the units' mobilization plan by identifying functions to be increased, decreased, established and discharged upon the declaration of mobilization. If extra equipment

is needed to carry out the mobilization-specific mission, it is identified on the MOBTDA.

b. Responsibilities.

(1) The basic responsibility for preparing MOBTDA lies with unit and installation commanders. By following FORSCOM's standardized mobilization planning policy guidance found in *U.S. Army Forces Command Mobilization and Deployment Planning System*, and Headquarters Department of Army's (HQDA) mobilization planning guidance found in *Army Mobilization and Operations Planning System*, unit and installation commanders determine how much materiel and how many personnel they will need to meet their mobilization missions. MOBTDA's are sent to the units' or installations' MACOM for approval and are then entered into the Total Army Authorization Data System (TAADS), which is maintained by the U.S. Army Information Systems Command (USAISC). TAADS is an automated system that supports requirements for and authorizations of equipment needed to accomplish the assigned missions of the Army. The MOBTDA system is crucial to the mobilization materiel requirements determination process because it is the only system that documents the requirements to equip the TDA Army.

(2) Since most of the TDA data needed to build File #2 for the I/E element is currently available on TAADS, USAISC should be responsible for extrapolating this data and providing it to the I/E element for use in calculating requirements.

c. Current Capabilities.

(1) Today, MOBTDA's have only been developed to support full mobilization of the current force--TDA's have not been developed to reflect requirements under total mobilization to expand the current force. In determining the capability of the Army to provide a list of MOBTDA to support total mobilization planning based on the REF, planners must ask themselves if current MOBTDA requirements would be able to support total mobilization.

(2) In 1989, FORSCOM reported in their total mobilization study that there would be no growth in MOBTDA requirements to support force expansion because the output capacity of the training base is relatively constant.¹⁰ For all intents and purposes, FORSCOM argues that the mobilization TDA force requirements for total mobilization are the same as those for full mobilization.

d. Identified Shortfalls and/or Obstacles.

(1) The MOBTDA is the principal source of required augmentation manpower and equipment for the TDA Army. However, if all mobilization support requirements are not identified and planned for, the credibility of MOBTDA suffers. There have been numerous reports generated in past years which have found that installations have not adequately identified mobilization support requirements. Additionally, ESC found that no methods exist for validating MOBTDA against the requirements of current OPLANs on a regular basis.

¹⁰FORSCOM *Total Mobilization 88 Study (A Study of Army Potential to Support A Total Mobilization Effort)* (SECRET), (Department of Army, Headquarters Forces Command, March 1989), pp. III-A-5, IV-A-7.

(2) Since the Army has no firm plans to build an expanded force structure after the current force is deployed--because virtually all mobilization planning has focused primarily on full mobilization--it is easy to see why FORSCOM has assumed that current MOBTDA forces can handle the requirements to support total mobilization. In fact, FORSCOM's total mobilization studies of 1984 and 1988 used this assumption in their methodological approach to determine the materiel requirements needed to support the Army portion of the JCS Minimum Risk Force--a force comprising more units than the REF. This assumption may be valid, but the Army needs to analytically determine, rather than assume, if the current TDA Army can support force expansion beyond the current force.

e. **Development of the CONUS Base (TDA) Force Data File.** Development of this file requires, at a minimum, that TDA units improve the accuracy of current MOBTDA data. If TDA structure needed to support total mobilization differs from the structure for full mobilization, that additional effort needs to be quantified by the TDA community.

(1) *Required Implementation Actions.*

(a) First, in order to get MOBTDA information from TAADS, ODCSOPS must task USAISC to provide such information to the I/E element.

(b) Second, the Army needs to enhance the credibility of MOBTDA data in general. Enhancing MOBTDA data is a big job. In order to get a handle on this, the Army would be wise to implement the recommendations of the April 1987 Special Inspection of Total Army Mobilization conducted by the Department of Army's Inspector General (DAIG) Agency and the 1989 Reinspection Report.¹¹

(c) Third, rather than assume that the current TDA Army can handle the CONUS-base support requirements associated with building and deploying the REF, ESC examined the current MOBTDA development process. An improved MOBTDA force structure development process was developed. The process would analytically determine whether or not the current TDA Army would need to expand in the event of total mobilization. This methodology is defined in pages A-16 thru A-28 of Annex A of this report.

(d) The improved methodology requires HQDA to determine where each of the new units comprising the REF are to be trained and readied for deployment. This will enable CONUS-base installation and TDA unit commanders to determine what resources, if any, beyond those already identified as needed to meet full mobilization mission objectives, would be required to bring new units to combat-ready status under total mobilization conditions.

(e) Unit and installation commanders are normally asked to develop their MOBTDA based on the deployment sequences identified in FORSCOM's full mobilization-based Mobilization Troop Basis Stationing Plan. Under the improved MOBTDA development process articulated by ESC, particular installation commanders would be told how many force expansion units would be coming through their installation under total mobilization. The installation commander would then be able to determine whether or not his current MOBTDA would support sequencing units beyond those identified in the MTBSP.

¹¹Special Inspection of Total Army Mobilization, "Action Memorandum," (Department of the Army Inspector General, 25 February 1987).

(2) *Estimated Resources/Costs.* Costs associated with copying the MOBTDA file from TAADS to the I/E element are minimal. The costs of improving MOBTDA data are incalculable because so many different programs and systems impact data integrity. Current monies being spent in the information management and DOCMOD (document modernization) arenas and on the Congressionally-mandated Reserve Component Automation System (RCAS) will, over time, begin to produce the results required. Fixing the MOBTDA files is not a cost associated with MOBNET. Units are currently required to submit accurate TDA/MOBTDA requirements and they are required to consider total mobilization. MOBNET reinforces the need for improvement in this area.

f. Issues Impacting Implementation. There are many issues which impact the determination of the TDA Army's mobilization requirements for Class V and VII items. These issues also impact the development of this file.

(1) As mentioned earlier, improving the quality and credibility of MOBTDA data is a big job. As the DAIG and other Army elements have pointed out, improving the quality of MOBTDA data involves, at a minimum, standardizing the MOBTDA development processes, refining and institutionalizing standard means for defining installation and unit mobilization requirements, maintaining the stability of the Mobilization Troop Basis Stationing Plan, and streamlining the MOBTDA revision process. These tasks are not easily accomplished.

(2) Another issue of concern is "timing." Hypothetically, if the current force (force A) loses the war by D+180 because the force required to win (force B) cannot be produced until D+730, DOD has to determine how this shortfall can be alleviated to achieve U.S. national security objectives. This is the essence of the planning process. How quickly one attempts to build force B directly impacts the resources required to build the force.

(3) For example, if the production time of D+730 above for force B is based on the fact that the Army used 51 installations, 23 training battalions and 780 MOBTDA units, it is possible that the production time could have been reduced to, say D+500 or earlier if the Army used 75 installations, 40 training battalions and 1000 TDA units. Mobilization planners need to address the issue of timing because it could mean the difference between calculating the mobilization requirements for a 780-unit TDA army vice a 1000-unit TDA army.

10. FILE #3: NEW UNIT EQUIPPING/AMMUNITION INITIAL ISSUE DATA. This data file will consist of information contained in TRADOC's Consolidated TOE Update (CTU) file and ODCSOPS's automated AIIQ file and will be used to determine base-line materiel requirements needed to equip new units.

a. Responsibilities. TRADOC is responsible for creating the CTU. U.S. Army Force Integration Support Agency (USAFISA) has access to the file to perform calculations. DAMO-FD is responsible for developing the rates found in the AIIQ.

b. Current Capabilities.

(1) The information needed to build this file already exists. TRADOC has developed a "living TOE," renamed the L Edition TOE (LTOE) system which will replace the current TOE and MTOE. The LTOE document prescribes the unit equipment requirements in discrete evolutionary increments of capability. The TOE begins with a doctrinally-sound base design and provides a series of intermediate TOE leading to a fully modernized objective design

(Objective TOE). The LTOE is the basis for force programming and becomes an authorization document when resources, specific unit designations, and effective dates for the activation are approved by HQDA.

(2) The Base-TOE is an organizational design based on doctrine and equipment available. It is the lowest common denominator of modernization and identifies the minimum essential wartime requirements for equipment based on equipment common to all units of a given type organization.

(3) An incremental change package is a doctrinally-sound grouping of equipment (and personnel) change documents which is applied to a base or intermediate TOE to form a new TOE variation.

(4) The Intermediate TOE is yet another organizational design which results from applying one or more incremental change packages to a base TOE to produce an enhanced capability. These documents form the bridge between base and objective TOE and provide the primary tool for programming, executing, standardizing, and documenting the force structure during phased modernization.

(5) The Objective TOE is a fully modernized, doctrinally-sound organizational design which sets the goal for planning and programming of the Army's force structure and supporting acquisition systems, primarily in the last year of the POM and the extended planning annex.

(6) The information on the CTU file is important because it enables planners to determine requirements for a host of varying TOE levels depending on the mobilization planning parameters set by ODCSOPS. Using CTU data, planners could define either the Base TOE, Intermediate TOE, or Objective TOE equipment requirements for a hypothetical force expansion package.

(7) The AIIQ data base, maintained by DAMO-FD, is also available to planners today and is used regularly to determine the requirements for Class V items.

(8) All of the data described above exists today. However, it is seldom used to support total mobilization planning.

c. Identified Shortfalls and/or Obstacles. None.

d. Development of the Equipping/Ammunition Initial Issue Data File.

(1) *Required Implementation Actions.* Ensure that those who will be responsible for computing requirements have access to the CTU file and the AIIQ list.

(2) *Estimated Resources/Costs.* Minimal.

e. Issues Impacting Implementation.

(1) USAFISA, through use of its Force Builder Decision Support System (currently being developed for the Army by Vector Research Inc.), could provide a roll-up of new unit materiel requirements by LIN, standard study number (SSN) or DODAC. To do so,

USAFISA would need access to CTU and AIQ data.

(2) An issue requiring resolution is who will calculate requirements? Should USAFISA provide all the data necessary to perform calculations to the I/E element, or should USAFISA perform the calculations and provide the I/E element with a roll-up of the requirements for new units? This issue is discussed in Section V, *Track II Implementation Assessment*.

11. FILE #4: CURRENT FORCES POST-MOBILIZATION TRAINING DATA. This file will consist of a list of the Class V and VII materiel requirements to support post-mobilization training of the current force Reserve units.

a. **Responsibilities.** FORSCOM is responsible for overseeing the development of these requirements today. Actual responsibility for determining unit requirements rests with unit commanders.

b. **Current Capabilities.**

(1) Today, the materiel requirements to support RC units before they deploy are supposed to be identified in each units' Post-Mobilization Training and Support Requirement (PTSR) report. The PTSR has been the only method available for units to identify their training and support requirements to their mobilization station (MS).

(2) The PTSR development process works as follows. First, the Unit Commander reports his units' requirements on FORSCOM Form 319-R. RC units prepare the report annually (or within 45 days of major MTOE changes) and submit it to either the State Adjutant General for the National Guard or the Major United States Army Reserve Command (MUSARC) for the United States Army Reserve. There, it is reviewed and transmitted to CONUSA, via the Army's Developmental Army Readiness and Mobilization System (DARMS). Once PTSR information is on DARMS, The Adjutant General (TAG), MUSARCs CONUS, mobilization stations, and FORSCOM have the capability to manipulate PTSR data in DARMS to support their own planning. Each MS, for example, can query DARMS to get a printout of all PTSR requirements which have been identified as needed by the MS to support mobilization of the units reporting to that MS. FORSCOM has the capability to query DARMS for a roll-up of all Class V and VII requirements for all RC units. The roll-up is referred to by FORSCOM as the Total Army Mobilization Station Shortfall Report (MSSR). The MSSR states requirements, on-hand or potential capability to meet requirements, and shortfalls.

c. **Identified Shortfalls and/or Obstacles.**

(1) The present PTSR report was intended to enable the RC Unit Commander and the MS to quantify postmobilization support requirements to permit effective planning for support of mobilization. However, according to FORSCOM, the PTSR has failed to provide the MS with accurate data, has proven to be an administrative burden on RC units, and suffers from a lack of credibility.

(2) The specific problems associated with the PTSR and its development are too cumbersome to report here, but they have been identified by the DAIG and FORSCOM is studying the problem.

d. **Development of the Post-Mobilization Support Requirements File.** The 1989 DAIG Reinspection of Mobilization concluded that the PTSR as currently structured, was not fulfilling its intended purpose and recommended it be discontinued. FORSCOM's Chief of Staff has directed a comprehensive analysis of the complete support process. This will identify ways to improve the PTSR or to develop an alternate means for providing required information to the MS. It should be noted that the PTSR was designed to provide the mobilization planner with information necessary to compare requirements against capabilities and to identify MS shortfalls. Consequently, FORSCOM has recognized that the need exists to determine whether the current MSSR system has improved the Army's ability to quantify total Army shortfalls or assisted in planning and programming for resources. Although PTSR requirements may represent a small percentage of total mobilization requirements, they are important requirements which must be identified.

(1) **Required Implementation Actions.** FORSCOM has already embarked on the first action required to solve the PTSR problem by mandating a study to provide recommendations for either improving the PTSR or an alternate means of providing required information to the MS. This study will conclude in September, 1990. When the study is complete, FORSCOM should implement those recommendations which will provide for the establishment of a viable PTSR system. MOBNET requires such information. A future PTSR system should be capable of rolling up all RC unit requirements for postmobilization training at the MS. This file would then be sent to the I/E element so that planners responsible for determining total mobilization requirements can make sure that PTSR requirements are included in a total statement of mobilization requirements.

(2) **Estimated Resources/Costs.** The costs associated with fixing the current PTSR problem cannot be estimated at this time. As with the MOBTDA's, fixing the PTSR is not a cost associated with MOBNET. Units are currently required to make their requirements known to their MS. They are currently required to submit these requirements in the manner outlined above. The costs of sending a copy of a rolled-up PTSR or PTSR-type file to the I/E element would be minimal.

e. **Issues Impacting Implementation.**

(1) Quite frankly, the issue which impacts the development of this file is whether or not this file is needed by the I/E element. Theoretically, once credible PTSR requirements have been developed and rolled up for each mobilization station, the MS commander should see to it that these requirements are identified on the MS's MOBTDA. Today, the Army cannot assume that PTSR requirements have been planned for inclusion in MOBTDA's. This is why MOBNET was designed to collect PTSR data separately. If there comes a day when PTSR requirements are incorporated into MOBTDA, then the I/E element would not require this file because requirements could be captured by rolling up MOBTDA requirements. However, a single list of post-mobilization training requirements needed to support forces training shortfalls in the current force can be a valuable list to planners and decision makers.

(2) Unfortunately, without complete identification of *all* mobilization support requirements, it is difficult for the installation to determine the level to which the MOBTDA

should be staffed and equipped. The development of PTSR data and MOBTDA is adversely impacted by the following situations:

- Revisions to the MTBSP.
- RC unit mission and organizational changes.
- The slow, cumbersome MOBTDA revision process.
- Lack of priority given to mobilization planning efforts.

12. **FILE #5: NEW UNIT INSTITUTIONAL TRAINING DATA.** This data file will consist of a list of all Class V and VII materiel required to support full or total mobilization requirements for institutional training. Generally speaking, three important activities have to take place in order to generate the requirements information contained in this file. First, Personnel Command (PERSCOM) must develop Mobilization Training Base Output Requirement (MTBOR), based on the size of the force identified in Files #1 and #2. Second, using this specific MTBOR, TRADOC must prepare a Mobilization Army Program for Individual Training (MOBARPRINT). Third, TRADOC must calculate the requirements to support execution of the MOBARPRINT by exploiting TRADOC-developed Mobilization Program of Instruction (MOBPOI) data. The MTBOR, MOBARPRINT and MOBPOI are further described below.

a. **Responsibilities.** PERSCOM is responsible for generating the MTBOR. Responsibility for developing a MOBARPRINT and MOBPOI rests with TRADOC.

b. **Current Capabilities.**

(1) Fundamental to requirements to support institutional training is a listing of all personnel who need to receive institutional training. TRADOC does not identify personnel requiring institutional training. PERSCOM identifies these personnel by using the Army's standardized, DOD-wide procedure for computing time-phased wartime manpower requirements called Wartime Manpower Planning Systems (WARMAPS). WARMAPS produces the official DOD data used in Congressional testimony and reports. It provides calculations of manpower requirements based on deployment and warfighting in accordance with the *Defense Planning Guidance* scenario. WARMAPS data is provided for broad occupational categories, e.g., close combat, medical, and is broken out by officers, warrant officers, and enlisted personnel.

(2) Similar manpower calculations at MOS-level of detail are made by the Army in its 1322 System (Quantitative and Qualitative Match of Army Full Mobilization Requirements with Assets of the IRR/Standby Reserve). It is this information which is used to conduct internal Army planning for utilization of personnel assets and to develop the MTBOR and MOBARPRINT. A new planning system, The Mobilization Manpower Planning System (MOBMAN) is under development to perform the WARMAPS and 1322 System functions from a common data base and with computer programs that will permit planners to do "what-if" drills.

(3) The actual development of an MTBOR is very complicated and there is no need to describe its development in this report. However, it should be noted that MTBOR details the manpower training requirements to support full mobilization of the current force. In other words, the MTBOR represents the number of graduates from the training base required to meet the Army's need for fillers and replacements to sustain the current force at a prescribed ALO during mobilization.

(4) As stated earlier, once PERSCOM develops the MTBOR it is passed to TRADOC where it is input on TRADOC's Army training Requirements and Resource System (ATRRS). TRADOC uses ATRRS to develop the MOBARPRINT. The MOBARPRINT is the mission and resourcing document which provides schools and training centers with detailed training requirements for the planned expansion of the training base in the event of full mobilization. From these requirements, training course schedules are developed showing the training seats needed in the training system.

(5) Once the number of training classes is determined, planners refer to the MOBPOIs to determine the resources required to teach each class. MOBPOIs specify resource usage requirements for each task required to complete the course. A task may require a per-student usage requirement and/or a per-class usage requirement. These two usage requirements must be combined to form weekly usage requirements. The resource usage requirements for consumable resources is measured in resource items per student (e.g., a particular training week requires 100 rounds of a particular ammunition per student). For nonconsumable resources, the usage requirement represents item-hours per student. For example, a particular training week may require 24 hours of training using tanks, at the rate of 1 tank for each 8 students, or 3 tank-hours per student. Theoretically, once the requirements for all training classes are computed and rolled up, the total requirements are known and used to support other mobilization planning activities.

(6) Planners monitor MTBOR, MOBARPRINT and MOBPOI requirements and the resources available to meet these requirements. Today, the development and monitoring activities associated with these documents is conducted in primarily a manual manner. This is a problem because changes in any of these documents affect the credible development and successful execution of TRADOC's training schedule. The bottom line is that, although the requisite data needed to perform requirements analysis is available, it is not available in a format which can be easily exploited to provide timely and credible requirements. This is *the* major shortfall or obstacle which currently precludes planners from developing sound statements of training requirements. This shortfall and others are discussed further below. The net result of all this is that when requests go out for TRADOC to determine training requirements, the credibility and accuracy of stated requirements is questioned--by the Army, by DOD, and by Congress.

(7) To summarize, although a methodology exists for determining requirements, the Army does not have the capability to effectively determine the requirements to support institutional training. The major reason for this is the lack of an automated system to help accomplish this task.

c. Identified Shortfalls and/or Obstacles.

(1) In 1986, TRADOC stated that an adequate method for determining training requirements has never existed. TRADOC's current capability to determine requirements, as

described above, is an evolving capability. However, the Army has not implemented a comprehensive automated mobilization system. The MOBARPRINT and MOBPOI baseline requirements require detailed screening for accuracy and applicability. The problems associated with the manual nature of current processes have long been recognized by TRADOC and have continued to receive strong emphasis at all levels of the Army. Data automation, standardization, accuracy, and credibility are acknowledged shortfalls. Additionally, as far as MOBNET is concerned, the Army has never asked TRADOC to determine the training requirements to support force expansion beyond the current force.

(2) Processes currently used to determine requirements are labor-intensive and information output is often inaccurate. As a result, planners are--

- Frequently "buried in paper" which limits timely access to critical information.
- Surrounded by independent data bases (some automated, most not--especially the MOBPOI requirements source documents) that are not structured in a manner that allows the identification and resolution of resource and scheduling conflicts.
- Unable to project outcomes from "what if" scenarios.
- Unable to forecast changes to current and projected requirements.

(3) These problems are compounded by the fact that planners need data that resides on several separate automated and paper systems. A great deal of time and energy is required to locate the sources of requirements data, read through the many reports and documents, and prepare this data for analysis.

d. **Development of the New Unit Institutional Training Data File.** In an effort to reduce the time and labor required to develop training requirements, TRADOC has developed an architecture that supports an automated solution to the acquisition, analysis, and exchange of mobilization information. This architecture is being built in the form of a mobilization decision support system (MDSS) that offers great promise for enhancing the current procedures used by TRADOC planners. The objective of the MDSS is to provide planners at TRADOC an automated capability to enhance refinement and execution of the MOBARPRINT. The initial outputs of the MDSS will be the mobilization schedules, course requirements and total resource requirements calculated from MOBPOIs. The MDSS plans to identify the requirements from MOBPOI and MOBARPRINT input data.

(1) ***Required Implementation Actions.*** As stated at the outset, there are three fundamental actions which must be accomplished in order to develop this file for the I/E Element. First, an MTBOR must be developed for the force articulated in **Files #1 and #2**. Second, TRADOC must develop a MOBARPRINT that identifies projected individual training requirements and courses needed to support total mobilization (call it a Total MOBARPRINT). This "MOBARPRINT" (not to be confused with the MOBARPRINT that exists today which addresses full mobilization of the current force) would necessarily contain the institutional

training requirements to support force expansion beyond the current force in existence at the time. TRADOC must determine the numbers and types of courses to be taught so that they can be compared to MOBPOI to determine requirements. These are the fundamental actions required. TRADOC has identified a number of specific actions which must be performed to build the capability to conduct the last two fundamental actions identified above. Development of the TRADOC MDSS will provide the required capability to generate this file as long as system developers are aware of the need for the file and design the MDSS to user specifications.

(2) *Estimated Resources/Costs.* The costs for building the MDSS have been identified in TRADOC's operating budget and Program Analysis Resource Review, and have been approved for inclusion in the POM. TRADOC states that, as currently planned, it will take 3 to 5 years to develop the system before it can provide the I/E Element the necessary information to roll into a total Class V and VII statement of requirements to support force expansion.

e. Issues Impacting Implementation.

(1) The greatest issue involves continued funding for the development of TRADOC's MDSS. The MDSS concept was briefed to the Principal Deputy Assistant Secretary of the Army for Manpower and Reserve Affairs, the Director of Operations, Readiness and Mobilization, and the Director of Training at HQDA prior to July 1987. MDSS has been in the development stage for quite some time. The developers of the system are aware of MOBNET and believe that they will be able to support the MOBNET process as soon as MDSS comes on line.

(2) Another issue which impacts the determination of institutional training requirements is that of non-POI training at installations. According to TRADOC, total training requirements would involve TRADOC having to resource FORSCOM/NG unit mobilization, permanent party training, as well as ongoing TRADOC POI training. This procedure is not effective because of the inherent time delay, lack of standardization, and the fact that the user validates his own requirements. TRADOC states that the Army now mixes installation mobilization plan Annex J's, MOBPOI requirements, and other known TOE requirements for a Class V and VII total. Manual, multiple calculations are not responsive enough to a dynamic, rapidly changing mobilization planning environment. This issue requires continued TRADOC support and funding until it is resolved.

13. FILE #6: NEW UNIT FORCES TRAINING DATA. This file will consist of data necessary to calculate class V and VII requirements for the support of forces training for new units.

a. Responsibilities. According to U.S. Army Field Manual (FM) 25-5, *Training for Mobilization and War*, FORSCOM is responsible for activating and organizing units, as directed by DA, and is responsible for planning for their commitment to perform wartime missions. FORSCOM obtains and manages resources to support these units and they are also responsible for performing assigned missions to train units in conjunction with other MACOMs. TRADOC is responsible for providing trained individuals and unit packages to the newly organized units. TRADOC also provides training support materials and services. Although the responsibility for carrying out forces training is shared between FORSCOM and TRADOC, as far as MOBNET

is concerned the responsibility for developing forces training requirements source documents lies primarily with TRADOC.

b. Current Capabilities.

(1) Today, the Army does not have an institutionalized method for determining the materiel requirements to support force training for new units under total mobilization conditions. Determining such requirements centers around the determination of Army Training and Evaluation Plan (ARTEP)- and Standards in Training Commission (STRAC)-based requirements for ammunition and equipment.

(2) The ARTEP is a complete program enabling unit commanders to evaluate and develop training based on weaknesses. Success on the battlefield depends on the coordinated performance of collective and individual skills that are taught through the ARTEP Mission Training Plan (AMTP). ARTEP documents are in the process of being revised, upgraded, and replaced with a series of multiple training documents formatted to AMTPs and drills. The end product of this effort will be the creation of separate AMTPs for each type TOE platoon, company, and battalion, as well as combined task force. The AMTPs are to provide a clear description of "what" and "how" to train to achieve critical wartime mission proficiency for each unit. The AMTPs are supposed to include resource (ammunition and equipment) requirements which will enable commanders and trainers to determine the materiel needed to support forces training.

(3) Mobilization training ammunition is resourced for MTOE units on the basis of *Standards in Weapons Training*, DA Pamphlet (PAM) 350-38, Chapter 9, *Mobilization Programs for Deploying Forces*. This publication is the product of the STRAC which was chartered to determine the doctrinal FM and ARTEP quantities and types of munitions essential for soldiers, crews, and units to attain and sustain weapons proficiency.

(4) Calculating ARTEP requirements and associated STRAC-derived weapons proficiency training requirements would be an arduous task since neither ARTEP or STRAC data are automated. Determining forces training requirements for brand new units is further complicated. FM 25-5 calls for the development of Unit Training Packages (UTP) for each type unit. UTPs should contain--

- MOBPOI requirements
- ARTEP (AMTP) unit test requirements for the particular unit
- A POI for cadre and related officer and NCO training
- Training packages for those involved in base operations.

Unfortunately, very little, if any of this "requirements information" has been prepared to date.

c. Identified Shortfalls and/or Obstacles.

(1) The Army's ability to determine forces training requirements for new units is hampered because ARTEP/AMTP and STRAC requirements data are not automated or centrally located and because UTPs have not been developed for new units. In effect, there is

a major requirements source documentation void which must be filled before planners can credibly estimate materiel requirements to support forces training for new units under total mobilization conditions.

d. **Development of the Forces Training Requirements File.** The development of this file is a major undertaking. Bridging the gap between full and total mobilization dictates that the Army determine the requirements needed to expand its current force. The actions defined below will enable the mobilization planning community to determine the materiel requirements needed to support force training for force expansion.

(1) *Required Implementation Actions.*

(a) First, TRADOC, in conjunction with FORSCOM, must develop specific training policies and mobilization planning guidance for expanding the force with new units. These policies must answer the following questions.

- What echelon will mark the completion of unit training? Will units be trained in brigade, division, and corps-level operations or will training stop at the battalion or company level? How will the transition from one level of training to the next be managed?

- Do the mission essential task lists (METL) in the ARTEPs represent valid training requirements for new units undergoing mobilization forces training? Is there a need for special mobilization METLs, MOB-METLs, which consider the peculiar needs of new units? Is there also a need for METLs that are mission- and theater-specific--that consider the special climatologic and geographic conditions of the area of operations?

- How are unit training cadres to be formed? What specific training will be required for cadre? What are the sources of cadre personnel?

(b) The second action is mandating the development, revision, validation, standardization, and automation of forces training requirements data. Compliance with this mandate will require completion of the following actions:

- Have TRADOC automate ARTEPs/AMTP (or at least the requirements data listed within each). Also consider automating in a way that would facilitate having this information fed to the MOBNET I/E Element so that planners could perform "what if" analyses using various requirements assumptions.

- Have TRADOC determine new unit weapons proficiency training requirements and automate them for easy access and manipulation. The current STRAC-based requirements for weapons proficiency training are based on full mobilization considerations. Current STRAC requirements only address full mobilization for the combat arms and are based on specific assumptions which apply to units already in the current force. They do not apply for newly-formed units during total mobilization requiring force expansion. Total mobilization standards must be developed.

- Have TRADOC develop MOB-METLS for newly-formed units.

(c) To summarize, the problem affecting the development of this file is the lack of requirements source documents. These delineate the actual numbers and types of ammunition and equipment needed to support forces training for new units during force expansion. Until this data is developed and put on an automated system, the Army will continue to rely on highly subjective statements of requirements based on assumptions which inevitably come under careful scrutiny. Establishing programs to develop and automate requirements source documents discussed above will pave the way for the eventual development of this file for the MOBNET I/E element.

(2) *Estimated Resources/Costs.* It will take at least 3 to 5 years to develop and automate the requirements source documents required to build this file. Good management argues that the AMTP and STRAC data should be automated to support peacetime training planning. The need for better peacetime planning is an issue of particular import as the Army enters an era of tightened budgets and other resource constraints. The cost of improvements to the data bases is not a cost directly associated with MOBNET. Moreover, since 1985, TRADOC and FORSCOM have been responsible for developing policies and guidance for expanding forces--MOBNET, therefore, is not levying a new requirement on the commands.

e. Issues Impacting Implementation.

(1) There are basically two issues which impact the development of this file.

(a) First, is the issue of cost. Automating requirements source documents would be costly. However, the automation of these documents would assist peacetime as well as wartime planning within the Army. Automating these documents would provide an enhanced capability for updating, revising, and disseminating these documents, thereby reducing the time and resources currently required to undertake these activities.

(b) Second, is the general resistance to total mobilization planning. Despite national, DOD and Army guidance, many planners simply fail to address the total mobilization issue. This mentality precludes the Army from looking honestly at the big picture.

(2) Today, the big picture is focused on identifying what is required to support national military objectives. The Army, DOD and the NSC need to know the resource requirements to support the achievement of total mobilization planning objectives--this is an explicit requirement identified in many mobilization guidance documents. Whether or not the requirements can be actualized should not be the concern of MACOM planners. The Army has a responsibility to calculate its requirements regardless of whether or not they can be realized. Once all the services have passed their requirements to JCS and other authorities who measure the capability of the industrial base to meet these requirements, senior decision-makers will be in a good position to direct programs and deal with identified shortfalls.

14. FILE #7: WAR RESERVE DATA. This file will contain theater-specific War Reserve (WR) stockage requirements for Class V and VII materiel in order to support the scenario under consideration.

a. **Responsibilities.** The DCSOPS is responsible for determining the priorities of fill of all WR requirements and for approving Class V and VII items authorized for WR stockage. The DCSOPS is also responsible for determining Class VII wartime replacement factors (WARF) and non-nuclear Class V consumption rates by theater and time period. These factors

and rates are to be maintained for all items stocked in, or supported by, WR, in accordance with Army Regulation AR 11-11, *War Reserves*. The DCSLOG is responsible for establishing a data base that identifies combat essential items for wartime consumption.

b. Current Capabilities.

(1) War reserves are specifically computed quantities of combat-essential materiel acquired in peacetime. This is necessary to meet wartime sustaining requirements until procurement or production sources can meet the demand at required levels. Today, war reserves are computed for a theater of operation, based on the equipment densities of units assigned to that theater.

(2) War Reserve Materiel Requirements (WRMR) are computed under Army guidance as implemented by AR 11-11. Each Army staff element or subordinate activity responsible for computing WRMR uses the Logistics Structure and Composition System (LOGSACS) and the ODCSOPS allied force structure files for designated and nondesignated allies.

(3) WR computations are based on scenarios, force structures, deployment schedules, and support periods, as prescribed yearly in official guidance documents and on the usage, attrition, and consumption rates provided by ODCSOPS. Basically, WRMR are based on the required personnel and projected materiel densities of the supported force.

(4) There are four basic types of WR.

(a) The first type is Prepositioned War Reserve Materiel Requirements (PWRMR) which has two components, the AIIQ and wartime resupply. Both are determined simultaneously, using a common designated scenario. The AIIQ, as described earlier in this report, is the quantity of ammunition to be issued with a weapons system that can be reasonably carried on a system and its dedicated transportation. Wartime resupply is the requirement for sustaining the force during wartime.

(b) The second type of WR is Other War Reserve Materiel Requirements (OWRMR). This level consists of the WRMR, less the PWRMR. OWRMR are authorized for three types of CONUS reserves. The levels authorized by DA are computed yearly, based on official Army guidance. The three types of CONUS Reserve (CR) stocks are designated CR-1, CR-2, and CR-3. CR-1 stocks of materiel are those stocks positioned in CONUS, required to reinforce PWRMS, or theater reserves. These stocks represent the balance of stocks required to fill the remainder of the PWRMS planning objective specified in official guidance. CR-2 stocks are U.S.-owned stocks, positioned in CONUS to reinforce prepositioned War Reserve Stocks-Allies (WRSA). These stocks represent the balance of the planning objective for WRSA as specified in official guidance. CR-3 stocks are those which must be in the CONUS depot system and/or in CONUS units deploying to POMCUS to support full mobilization of all RC units identified in the current Structure and Composition System (SACS). These stocks are supposed to include sufficient quantities of materiel to bring RC units to a designated readiness category or C-rating.

(c) The third type of WR is WRSA. WRSA is currently identified as the OSD-directed program to stockpile U.S.-owned WR materiel, procured or retained during peacetime, to ensure U.S. preparedness to support the sustainability of our allies during

wartime, until resupply can be effected. This program provides WR stocks to replace combat consumption and loss of equipment, ammunition, medical items, spares, and repair parts. The only stocks currently existing in the WRSA program, though not specified for the Republic of Korea (ROK), are "ROK-intended."

(d) The fourth type of WR requirements is War Reserve Stocks-Thailand (WRS-Thai). This program is managed independently from the WRSA program.

(5) The Army's current capability for determining the requirements for these different types of WR is focused on full mobilization requirements. The processes and methods used to determine WR requirements are complex and require the use of a wide range of manual and automated systems. **Figure 5** lists some of the ways in which the Army now estimates its requirements for Class V and VII items during peace and war. Most of these methods only determine the materiel needed to fill and sustain the current U.S. Army force structure. Thus, the Army does not plan in any significant detail how it will size and structure units much beyond the force programmed to be built within five years. ESC found that none of these methods fully document the materiel needs of an expanded force or the CONUS base under conditions of total mobilization. Few of these methods give any consideration to the materiel needs of the other services or our allies, even though those needs have historically made up a significant portion of the actual materiel demand placed on the U.S. industrial base in wartime. The methods identified in **Figure 5** are used today to develop stockage requirements for the various types of stocks described above to support full mobilization WR planning objectives.

c. Identified Shortfalls and/or Obstacles.

(1) In April 1988, DAMO-FDL stated that current methodologies for determining WR requirements for ammunition and equipment had evolved into a complex, unresponsive, and misunderstood process that produced large requirements seldom understood. This was perceived to be a big problem because the war reserve rates generated as a result of the methods discussed above were designed for programming purposes. The rates are used as the basis for most of the Army's planning, force structuring, distribution and procurement decisions. The CINCs were worried that the "P" rates did not reflect their anticipated warfighting needs. DAMO-FDL also stated that the current process produced a very complex system of models, data bases, DSSs, and committees that inhibited a clear audit trail of factors and assumptions leading to approved programs. The complexity of the WR requirements determination system was found to contribute to the lack of responsiveness in examining different scenarios, threats, constraints, and operational conditions. A perceived "malutilization" of the "P" rates further undermined confidence in them as planning factors.

(2) In 1988, the Chief of Staff of the Army tasked the DCSOPS to make the system credible through a strong warfighting argument to defend ammunition requirements planning. DAMO-FDL was directed by the DCSOPS to develop and institutionalize a Class V and VII requirements system anchored in AirLand Battle doctrine that is understandable, credible, and traceable; from the forward line of own troops (FLOT) to the ports and from the present to the end of the program objective memorandum (POM). The idea was to ensure that the process would be able to permit decisions to focus squarely on differences in the key factors and assumptions. Also, it would be able to facilitate rapid execution when exploring the impact of changes to assumptions, data, and constraints on key decisions.

DA CIL

The items on the Department of the Army Critical Items Lists (DA CIL) comprise the Army's industrial preparedness planning program. *No foreign requirements are included in the DA CIL.*

P-STUDIES

The program-year studies (P-Studies) conducted by the U.S. Army Concepts Analysis Agency (CAA) use wartime consumption and attrition rates. These are generated by computer simulations of a wartime scenario to determine how much ammunition and equipment the Program Force will need to sustain itself for the first 6 months of battle. (The Program Force is the force that will be the Army's current force in 5 years.) *In selected cases, the P-Studies examine in a limited way the sustainment needs of U.S. allies, but only for the purpose of helping those allies set war reserve stockage goals.*

OMNIBUS TLR/S

The OMNIBUS and Total Logistics Readiness/Sustainability (TLR/S) studies also rely on computer-generated consumption and attrition rates to estimate the sustainment and logistic support requirements of the Army's current force under the conditions set by a particular wartime scenario. *The sustainment or logistic support needs of U.S. friends and allies are not usually considered in either the OMNIBUS or TLR/S.*

AAO

The Army Acquisition Objective (AAO) is the "shopping list" of the ammunition and equipment items needed to (1) satisfy war reserve goals and (2) fill, equip, and sustain the current force. *The AAO lists war reserve goals for selected allies.*

MFRS

The Mid-Range Force Study (MFRS) is also done by CAA, and uses the results of computer simulations to develop and size the Army's Planning force. *Allied forces are not directly considered.*

MOBREM

The Mobilization Requirements Model (MOBREM) is a computer model which can estimate the materiel and personnel needs of the CONUS-Base during times of crisis or war. *Allies are not considered.*

TAEDP

The Total Army Distribution Program (TAEDP) manages the current and projected distribution of major end-items of equipment throughout the Army force structure. *War reserve goals for selected allies may be listed.*

**Figure 5. METHODS USED TO ESTIMATE PEACETIME AND WARTIME
AMMUNITION AND EQUIPMENT REQUIREMENTS**

(3) The Ammunition Requirements Process Study, still underway within DAMO-FDL, has involved a complete review of the Army's combat modeling process. Most of the study is complete. The remaining activities involve methodological issues currently under review.

(4) Credible ammunition requirements data are needed if MOBNET is to be a viable concept. DAMO-FDL representatives have followed the MOBNET project from infancy and are aware of MOBNET's need for credible ammunition consumption estimates. Once DAMO-FDL completes their study, shortfalls and inconsistencies in their development processes will be identified and actions to correct them will be undertaken.

d. **Development of the War Reserve File.** Presently, WR calculations are conducted yearly for the current force. For total mobilization planning, requirements will have to be developed separately to support WR calculations for force expansion.

(1) **Required Implementation Actions.** HQDA must task DAMO-FDL to calculate total mobilization WR requirements. The DAMO-FDL study will determine how requirements will be calculated. The fundamental actions include--

- Developing the theater-specific force structure.
- Designating the time over which requirements are estimated.
- Using a credible method for generating the consumption of materiel and equipment.
- Developing a method for actually calculating WR requirements under the broad spectrum of possible future contingencies.

DAMO-FDL and DAMO-ODM should work together to determine the specific details of the approach and data that will be needed to develop this file.

(2) **Estimated Resources/Costs.** Development of the capability to determine WR requirements falls outside the scope of the MOBNET-related development activities. Consumption estimates are in the process of being updated. What remains to be defined are credible consumption estimates for an expanded force structure. If the new DAMO-FDL methodology for the current force can not be readily adapted to perform calculations of WR requirements for supporting total mobilization planning (within current operating budget), then DAMO-FDL should estimate the costs for undertaking these additional activities.

e. **Issues Impacting Implementation.** The doctrinal methodology, in its present form, has little utility. The data is neither theater-specific nor auditable. DAMO-FDL must produce a credible methodology for determining consumption and loss estimates. DOD must design an acceptable, relatively stable scenario to support long-range planning. Finally, the success of DAMO-FDL's efforts hinges on the capability of the Army's family of combat models to support DAMO-FDL's new methodology.

15. **FILE #8: COALITION FORCES DATA.** This data file will consist of a list of potential Class V and VII requirements to support coalition forces critical to the success of U.S. military objectives.

a. **Responsibilities.** DOD policy for planning to support coalition campaigns is outlined in the draft DOD directive, *Support to and From Allied and Friendly Countries or International Organizations During Emergencies, Crises, or Wartime*. This directive will replace Directive 5100.27, *Delineation of International Logistics Responsibilities*, dated 1964. The draft directive breaks new ground by requiring that issues related to the wartime support of U.S. friends and allies be considered during both the deliberate planning and industrial planning process. Most important, the directive installs two new tools in the U.S. system for wartime coalition logistics planning: a data base of U.S.-origin equipment in the hands of U.S. friends and Allies, and OPLAN-specific lists of critical security assistance items.

b. **Current Capabilities.** ESC Report *Wartime Support of US Friends and Allies: An Assessment of the Planning Environment (U)*¹² reviews the history of U.S. wartime cooperation with allies and outlines the structure of the U.S. peacetime security assistance program and current international logistics agreements and policy. This report also describes how Army planners now consider allies' requirements or capabilities in war reserve planning and coalition war plans. It also outlines emergency policy directions for wartime security assistance and international logistics and describes data bases and methods which could be adapted to estimate the potential non-U.S. demand for Army-managed materiel items during wartime.

c. **Identified Shortfalls and/or Obstacles.** Much of the specific information which relates to the Army's ability to compute coalition requirements is classified. However, as pointed out earlier in **Figure 5**, most of the methods the Army uses to estimate its requirements for ammunition and equipment give little, if any, consideration to the materiel needs of our allies.

d. **Development of the Coalition Data File.** U.S. warfighting strategy is fundamentally a coalition strategy. U.S. allies share the responsibility for defense of a region and have a major role in their own defense. The success of any operation with a coalition element depends on how well all partners in that coalition can sustain themselves. In those instances when materiel requirements exceed the capacity of coalition partners, the U.S. must be prepared to make up the difference or face collapse of the coalition's objectives.

(1) **Required Implementation Actions.**

(a) The FY 1990-1994 *Defense Planning Guidance* stated that industrial planning efforts must be expanded to achieve a North Atlantic Treaty Alliance (NATO) perspective. It specifically stated that both the demands and resources of the Alliance should be identified to develop an integrated planning approach to prioritizing and resolving production deficiencies. Towards this end, the *Defense Planning Guidance* urged the establishment of a data base of U.S.-origin weapons systems and major items of equipment held by friends and allies. The Secretary of Defense (SECDEF) also stated the need to determine the magnitude and impact of potential U.S. support requirements for various levels of contingency and war.

¹²*Wartime Support of US Friends and Allies: An Assessment of the Planning Environment* (SECRET-NOFORN-WNINTEL-NOCON), (CEESC Report R-89-6, February 1989).

(b) Certain allied nations and friendly foreign polities will be critically important to the strategic goals of the U.S. A decision to support such groups with U.S.-produced materiel may significantly drain the nation's production capability. Complete planning for mobilization requirements demands that planners give credence to the possibility that non-U.S. forces will pursue U.S. materiel assistance. Therefore, it is important to estimate potential non-U.S. demand. The MOBNET planning concept outlines three basic actions which need to be undertaken in determining the potential non-U.S. demand for materiel.

1) First, planners must identify those forces which are likely to support U.S. political and military goals. An examination of OPLANs and CONPLANs prepared by the CINC's of the unified commands would reveal the number and types of friendly non-U.S. units considered to be significant to their strategic mission. However, these plans only provide detailed information on the forces of allied nations with which we have agreements for combined operations. Further intelligence analyses could provide similar information for forces whose success in combat are material to the global interests of the U.S., but with which we have no treaty obligations. The order of battle for non-U.S. forces would give an indication of non-U.S. battlefield priorities. From this data, decision-makers should determine those non-U.S. forces which have roles that contribute to U.S. objectives.

2) Second, planners need to categorize the impact of allied or friendly forces and missions on U.S. forces and their missions. Those forces whose failure would be most deleterious to U.S. objectives could then be nominated as candidates for U.S. materiel support. The potential allied combat losses and their effect on the missions of U.S. forces could be estimated from several institutionalized sources within the Army. For NATO nations, CAA uses a number of studies and models to provide the Army the combat-induced loss and expenditure rates for equipment and ammunition. Those forces friendly to the U.S. which are not included in the Army's combat models will require other methods for calculating rates. The Army Logistics Center has the capability to estimate ammunition consumption rates for units using a PC-based model. Both the JCS's *Minimal Essential Security Assistance Requirement (MESAR)* and the Defense Security Assistance Agency's *Annual Integrated Assessment of Security Assistance (ALASA)* provide lists of potential equipment and ammunition requirements. Both of these data bases should be used to determine requirements.

3) Third, planners need equivalent force lists for foreign armies or materiel lists which reflect the potential demand for military materiel. Foreign force lists, supplied by the intelligence community are valuable planning tools for those foreign unit structures which closely mirror those of U.S. forces. For the foreign armies that are equipped with items of U.S. equipment but that have organizational structures unlike those of U.S. forces, analysis by the intelligence community and analysis of past requests for assistance can provide relevant data.

(c) CAA states that developing U.S.-equivalent force structure for non-U.S. forces organized similarly is not a difficult task. CAA can also capture the foreign military requirements generated by the combat models. To build this capability, CAA would need to develop a new methodology and database. Funds would be required to support the effort involved in modifying existing methodologies.

(d) Implicit in this process is a need to examine the capability of the foreign nation's industry to sustain part or all of its military forces. Additional implementation actions for developing the data required for this MOBNET file are identified in ESC's report,

*Wartime Support of US Friends and Allies: An Assessment of the Planning Environment.*¹³ These actions provide specific details to guide planners as to how coalition requirements should be developed.

(2) *Estimated Resources/Costs.* Specific resources and costs cannot be estimated at this time.

e. Issues Impacting Implementation.

(1) A primary issue impacting implementation involves proponentcy and responsibility. Although the implementation actions detail the actions needed to estimate coalition force requirements, there remain significant questions concerning who has responsibility for them.

(2) The Army, OSD, and the various intelligence agencies have an interest in components needed to develop this file. DCSOPS must carefully coordinate all sources and identify who will be tasked as the proponent for consolidating this information for Army planning purposes.

(3) The entire issue of coalition force requirements can become sensitive very quickly. Official guidance pertaining to this area is very specific, but, as is often the case, such guidance has yet to be translated into systems and programs. The Army must work with JCS, OSD, and the intelligence community to develop this file.

¹³Ibid, pp. 62 and 63.

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V. TRACK II IMPLEMENTATION ASSESSMENT

16. **DATA FILE INTEGRATION/EXPLOITATION ELEMENT.** The I/E element accomplishes two vital tasks. It must be able to access the files described in Section IV and prepare a complete statement of total requirements based on the file data.

a. **Responsibilities.** The responsibility for developing an I/E element to support the MOBNET planning process must be shared by ODCSOPS and the DCSLOG. ESC's recommended delineation of this shared responsibility is developed in the following paragraphs.

b. **Current Capabilities.**

(1) The Army's Logistics Data Network (LOGNET) has many of the features needed by the conceptual MOBNET I/E element. The following paragraphs trace the development of LOGNET and describe its current and anticipated future capabilities.

(2) The need for LOGNET was highlighted in the 1978 mobilization exercise *NIFTY NUGGET*. The Army identified a need for a standard automated methodology for materiel and logistical planning. In the early 1980s, a prototype LOGNET was designed for use by HQDA, the Army MACOMs, and their planning agencies. Early design descriptions clearly envisioned LOGNET as a component of the Worldwide Military Command and Control System (WWMCCS), capable of reporting materiel requirements data in support of the Joint Operations Planning and Execution System (JOPES).

(3) The U.S. Army Logistics Evaluation Agency (USALEA), the LOGNET proponent, used the prototype to refine functional requirements for the final LOGNET system. LOGNET is a computer-based system which can access many data bases and select specific data for various calculations and analyses. LOGNET provides an interactive communications link that is needed to integrate and exploit relevant data for logistics planning--including force lists, requirements source data, and sustainment rates. An enhanced version of LOGNET (now called ALOG) has been added to WWMCCS as part of the Army WWMCCS Information System (AWIS) development. The functional proponent for ALOG is the DCSLOG and the functional proponent for the entire AWIS system is the DCSOPS.

(4) Currently, USALEA is using LOGNET to perform asset distribution/redistribution and cross-leveling analysis to improve the readiness of deploying current force units. It is also using the system to perform Class V and VII sustainment analysis for current force units under full mobilization.

c. **Identified Shortfalls and/or Obstacles.**

(1) The MOBNET system draws on data produced by a variety of proponent MACOMs. The system managers need to insure proper development of the AWIS work stations and product lines at the early stages. As more and more data bases and supporting systems reach maturation, the ability to add appropriate data elements and algorithms becomes more difficult. This early period of product development is the most suitable time to make changes to AWIS product lines.

(2) Another aspect of the AWIS system that needs to be resolved by the AWIS team as the work stations and product lines progress is how the overall system protocols will be designed. Specifically, will work station users be able to access the systems at another work station or will they be limited to accessing only the global data base generated by those systems? This question of user interface directly impacts how the ALOG/MOBNET I/E element will work. On the one hand, the MOBNET user has unlimited querying capability--he can change the forces that feed the training and logistics simulations to generate new global data. On the other hand, changes to the fundamental assumptions behind the existing data can be attempted only by coordinating the efforts of all relevant work stations.

(3) The ODCSOPS proponent has argued, from the beginning of the MOBNET study, for the ability to exercise the system at will, from a single work station. ESC agrees that this centralized approach would better facilitate the MOBNET philosophy. However, security MACOM concerns about allowing access, however restricted, to proprietary systems are real issues that may be insurmountable. If that is the case, MOBNET can still work effectively in a decentralized environment.

d. Development of the MOBNET I/E Element Within the AWIS ALOG.

(1) In January 1990, JAYCOR corporation submitted a MOBNET Prototypes/New Systems Assessment report to the AWIS Product Manager, Requirements and Architecture (PM, R&A). This report is presented in the MOBNET/AWIS Assessment Report.¹⁴ This report provides an analysis of potential overlap between AWIS and MOBNET, which impacts on AWIS development. The assessment was based on a high-level analysis of prototypes/new systems identified by the PM, R&A. The conclusion of this report stated that a significant number of the functions described in MOBNET documentation will be provided by AWIS development. The report also concluded that, with some additional effort, the AWIS development process could be modified to incorporate requirements included in the MOBNET system which are not currently considered in the AWIS program.

(2) The report further mentioned that AWIS would provide a more cost-effective vehicle for satisfying MOBNET requirements than initiating a new program to develop MOBNET. ESC fully agrees with this point. Indeed, it was never ESC's intent that MOBNET lead to a new independent systems development program. MOBNET is a structured way to identify information requirements and credible sources for that information. ODCSOPS guidance to ESC for integrating and sharing MOBNET information was to develop an implementation strategy that capitalized on existing data systems and other systems under development. The AWIS Architectural Design Contractor (ADC) is scheduled to visit most of the Commands referenced in the MOBNET system description to define requirements for AWIS development and should meet with DAMO-ODM to discuss mobilization data requirements and currently projected AWIS tasking which could benefit ODCSOPS.

e. Required Implementation Actions.

(1) Design ALOG to be able to determine materiel requirements for an expanded force by accessing data elements defined in MOBNET Files 1, 2, and 3.

¹⁴ Mobilization Network (MOBNET) Prototypes/New Systems Assessment Report, (JAYCOR, 22 January 1990).

(2) Add to the objectives of ALOG the following statement "to provide an automated system for use by HQDA in developing a statement of total mobilization requirements which can be fed to JCS for use by the JIMPP system."

(3) ALOG should provide access to asset, authorization, requirement, consumption and attrition data on Class V and VII materiel.

(4) ALOG should have the capability to access sustainment requirements and shortfalls for the current, programmed, and JCS Planning Force (now referred to as the REF).

(5) ALOG developers, in conjunction with ODCSOPS--particularly DAMO-ODM--need to work out the details concerning MOBNET security and access requirements.

(6) ALOG should be able to apply wartime consumption and attrition estimates to both the current and expanded forces under total mobilization conditions.

(7) ALOG should be able to apply generic attrition and consumption data to answer "what-if" questions across the broadest spectrum of conflict scenarios.

(8) Total mobilization requirements must be translated into LINs, DODAC and NSNs. ALOG's cross-referencing system should be adequate to meet this objective.

(9) Total requirements must be determined for all end items. This will help such programs as the CRISP program at AMC.

(10) ALOG developers should contact JIMPP developers to discuss formats for supplying total mobilization requirements to JCS.

(11) Ensure that LOGNET prototype capabilities are included in ALOG development.

(12) Whereas LOGNET was designed to support crisis action planning and the force list of the first 120 days of a full mobilization, ALOG should have the functional capability to examine requirements under a level of mobilization, all the way up to and including total mobilization, for the time-frames specified in AMOPS.

(13) Whether or not data gets put on the AWIS global data base depends on the requirements identified in the AWIS functional descriptions. Therefore, AWIS FD developers need to include MOBNET functional requirements in the FDs so that AWIS architecture designers can develop the product lines to support such requirements.

1. Estimated Resources/Costs. The objective of the LOGNET system was to provide an automated system for use by HQDA and major Army commands in executing their logistical materiel planning responsibilities in crisis action and deliberate planning as well as their planning responsibilities in support of **total mobilization** and deployment¹⁵. Despite this clear mandate, little effort has occurred in the realm of total mobilization. Adding this additional capability to AWIS, therefore, is *not* a separate cost attributable to MOBNET. The

¹⁵The Logistics Data Network (LOGNET) System Concept Paper (Functional Requirements Document-Draft), (USALEA, 11 December 1986).

requirement exists and MOBNET simply provides a logical framework to expedite AWIS development in this functional area. AWIS representatives have said that they intend to pursue the development of a MOBNET functional requirement as part of their planning effort. *No additional resources appear necessary.*

g. Issues Impacting Implementation.

(1) There are many issues which may impact a decision to proceed with the actions stated above. AWIS has a global perspective of the logistics planning process. Total mobilization requirements are only a small portion of this global perspective. Without strong proponency, the risk of losing sight of the requirement for developing a MOBNET functional requirement and the product lines to support it is high.

(2) HQDA priorities may also impact the implementation of the actions needed to integrate MOBNET into AWIS/ALOG. ESC has spent considerable effort pointing out the importance of total mobilization planning to the industrial preparedness process, force planning, and systems development. It will be the responsibility of the study sponsor to persuade decision-makers within the DCSLOG and DCSOPS to proceed with MOBNET development.

VI. CONCLUSIONS AND RECOMMENDATIONS

17. SUMMARY OF REQUIRED ACTIONS. The objective of this IMPLAN is to list the fundamental actions or steps which must be taken to implement the MOBNET planning process. The MOBNET implementation actions which have been identified in the preceding sections fall into five basic categories. The five categories and the implementation actions associated with each are summarized below:

a. Enhance AWIS-ALOG as MOBNET I/E Element.

- (1) Incorporate MOBNET functional requirements in the HQDA AWIS Functional Description.
- (2) Develop AWIS Product Lines to support MOBNET requirements.
- (3) Establish an AWIS-ALOG total mobilization requirements report format to support JIMPP.

b. Develop Total Mobilization Force List.

- (1) Develop a total mobilization planning scenario.
- (2) Determine the total number and type of all TOE units required to provide a reasonable assurance of success in meeting the national military strategy associated with the chosen scenario.
- (3) Determine the TDA force structure capable of supporting force expansion.

c. Establish Credible/Acceptable Wartime Consumption Estimates.

- (1) Complete the Ammunition Requirements Process Study and publish credible theater-specific consumption tables.
- (2) If necessary, develop separate War Reserve requirements tables for an expanded force under total mobilization conditions.

d. Develop Training Requirements Source Data.

- (1) Develop an expanded MTBOR for the force list required to support a total mobilization.
- (2) Develop the capability to generate a total MOBARPRINT for force expansion training under total mobilization based on the expanded MTBOR.
- (3) Develop and automate MOB-METL, MOBSTRAC, ARTEPs and AMTPs. Automation of these types of documents would help real world peacetime

planning as well as mobilization planning to support force expansion.

(4) Automate MOBPOIs.

(5) Establish a credible method or system for documenting current force Post-Mobilization training requirements for Class V and VII.

e. Identify Coalition Force List.

(1) Identify which allied and/or friendly forces are likely to support U.S. political and military goals associated with a given scenario.

(2) Examine OPLANs and CONPLANs to determine the number and types of friendly non-U.S. units considered to be material to the planned missions.

(3) Categorize the impact of allied and/or friendly forces capabilities and missions on U.S. forces and their missions.

(4) Develop either equivalent force lists for foreign armies or materiel lists which reflect the country's potential demand for materiel.

18. PRIORITIZATION OF IMPLEMENTATION ACTION CATEGORIES.

a. ESC recommends the five implementation action categories be prioritized as presented in **Figure 7**. The prioritization of these categories is based on a subjective assessment of the relative urgency, importance, and difficulty of implementation associated with each category based on the considerations described below.

b. The assessment of *relative urgency* is based primarily on a consideration of which category of actions should be pursued first, from an implementation perspective, in order to ensure the continued momentum of MOBNET development. This assessment also considers the relevance of one category of actions on the development of other categories.

c. The assessment of *relative importance* is based on the importance of a category of actions to the overall development of MOBNET. The percentage of total requirements which a given category of actions would help produce was considered the most important factor in assessing its importance.

d. A determination of the *relative difficulty of implementation* for each of the categories is based on a number of subjective conclusions regarding--

- Time required to implement the actions.
- The number of actions needed to cure policy and management deficiencies.
- The availability of the resources required.
- And the availability of the necessary input for those actions.

Implementation Action Category by Priority/Rank		Urgency	Importance	Difficulty of Implementation	Consolidated Score
1	Enhancement of AWIS-ALOG as MOBNET I/E Element	1	1	1	⇒ 3
2	Development of Training Requirements Source Data	1	3	1	⇒ 5
3	Establishment of Credible/Acceptable Rates	2	2	3	⇒ 7
4	Identification of Coalition Force List(s)	2	5	1	⇒ 8
5	Development of Total Mobilization Force List	3	4	4	⇒ 11
SCORING SYSTEM: 1 = Very High 3 = Medium 5 = Very Low 2 = High 4 = Low					

**Figure 7. PRIORITIZATION OF MOBNET IMPLEMENTATION
ACTION CATEGORIES**

19. MANAGEMENT OVERSIGHT.

a. ESC recommends that ODCSOPS, DAMO-ODM establish and chair a MOBNET implementation review council. The role of this review council is to advise and assist in the monitoring of the implementation process. Additionally, the council makes sure that implementation efforts remain properly focused on the projected plan for implementation.

b. The council would consist of members from those Army elements which have a clear functional interest in either overseeing the execution of implementation actions or in actually undertaking such actions. Members should, at a minimum, include representatives from TRADOC, FORSCOM, DCSLOG, DCSPER, AWIS, and DCSOPS. Specific functions and responsibilities of such a council are recommended below:

- Coordinate a review of this IMPLAN and obtain management or command approval to proceed with the MOBNET IMPLAN.
- Approve the implementation strategy and help ODCSOPS refine this strategy as implementation progresses.
- Monitor the progress of implementation through formal reviews and discussions with ODCSOPS, DAMO-ODM.
- Determine that implementation actions have been taken in accordance with the implementation plan provided in this report and amended as circumstances warrant.

- Define implementation problems and make recommendations to resolve them.
- Determine, on a regular basis, the extent to which IMPLAN objectives have been achieved.
- Provide feedback to those directly managing planning and programming activities.
- Coordinate execution of the IMPLAN.
- Appoint subgroups of the Review Council members and other experts as required to provide recommendations and required implementation support in specific areas, e.g., training requirements source data and coalition force lists.
- Keep Army leadership aware of implementation progress.

c. DCSOPS-ODM should allocate staff support to serve as coordinator for the review council and liaison with AWIS and MACOM representatives. The council coordinator would develop meeting schedules, topics, and agendas. As liaison, the coordinator would monitor the development by the MACOMs of systems and data bases to insure that they include data relevant to MOBNET and that AWIS allows proper access to this data through the mobilization product line.

20. COSTS.

a. MOBNET, from its inception, was designed to capitalize on existing systems and data bases. In many instances, where MOBNET called for new systems or data bases, the systems were mandated by existing Army and DOD policy. In other cases, automating archaic manual systems was the reasonable course for the MACOMs to pursue, if only to improve their daily peacetime operations.

b. From the DCSOPS perspective then, the only cost that would have been considered new was the cost of developing the integration/exploitation element. If AWIS assists in developing a mobilization product line for DCSOPS, this cost will be minimal.

c. The Army now has a unique opportunity to develop (through MOBNET) an effective mobilization planning system. A variety of systems and processes are in the early stage of development or are being re-examined under the AWIS umbrella. With a little effort and virtually no additional cost, the ODCSOPS can take advantage of the AWIS program and influence its direction.

LAST PAGE OF MAIN PAPER

ANNEX A

COMPONENTS OF THE REQUIREMENTS DETERMINING SYSTEM:

MOBILIZATION NETWORK (MOBNET)

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ANNEX A

**COMPONENTS
OF THE
REQUIREMENTS DETERMINING SYSTEM:**

MOBILIZATION NETWORK (MOBNET)

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1. **Purpose.** This annex describes the specific components of MOBNET, the planning system recommended by the Engineer Studies Center (ESC) for use in determining materiel requirements to support mobilization of the United States Army.

2. **Scope.** MOBNET measures the amount of Class V (ammunition) and Class VII (major equipment end items) needed to support the mobilization of the U.S. Army. It counts only those items of equipment and ammunition procured under the management of the U.S. Army. The system depicted represents a full accounting of mobilization requirements, including those generated to support theater combat forces, CONUS support base activities, and allied or friendly forces.

3. **The Structured Analysis Methodology.** The system outlined by ESC is complex, encompassing numerous component decision support systems and data bases. Responsibility for these component systems and data bases is dispersed across the structure of the Army, making centralized management of the total system a difficult task. The structured analysis method is the best way to show the interrelationships between decision support systems and their requisite data bases.

a. Structured analysis can be viewed as a language which enforces a disciplined approach to expressing complex thoughts.¹ Analyses of large systems are *decomposed* into units whose sizes facilitate clarity and understanding. Theoretically, a system can be decomposed into

its component systems, each of which, in turn, can be decomposed into its component systems, each of which can be decomposed... and so on. The number of charts necessary to satisfy the information needs depends on the level of detail required by the audience. The ESC analysis has not gone below the third tier of decomposition. The level of detail provided by the first three tiers is general enough to assist management of the system by the Army staff and is specific enough to guide further development of supporting decision support systems and data bases within the Army commands.

b. The structured analysis language used by ESC to describe the system components includes only four symbols. These symbols, shown in Figure A-1, define a system decision point, a data flow, a decision point outside the boundaries of the system component under examination, and a data base.

(1) Typically, each system decision point symbol will be annotated with a surrounding box which specifies a decision support system (DSS) used to process the incoming data and generate a data output. Typically, the DSS recommended is automated. However, occasionally, a DSS is proposed which is not now automated and which does not lend itself easily to current automation techniques.

(2) The data flowing out of or into a decision point are represented by an arrow which shows the origin of the data and their destination. Moreover, each arrow is labeled to show those data elements which are essential to the system's operation. Therefore, although a model or a DSS shown in a chart may generate considerable data, only the data pertinent to the requirements estimation processes are shown.

(3) Much of the data needed to determine requirements are developed by models or from DSSs which operate outside the scope of the study. These systems are shown but not decomposed for further analysis.

(4) Data bases provide data to the system and also accept data from the system. A data base which accepts data from one component of the system will typically appear elsewhere within the overall system as a data base which provides data to another component of the system. Although specific data bases may include a myriad of data of importance to other military planning fields, only the data pertinent to requirements determination are identified.

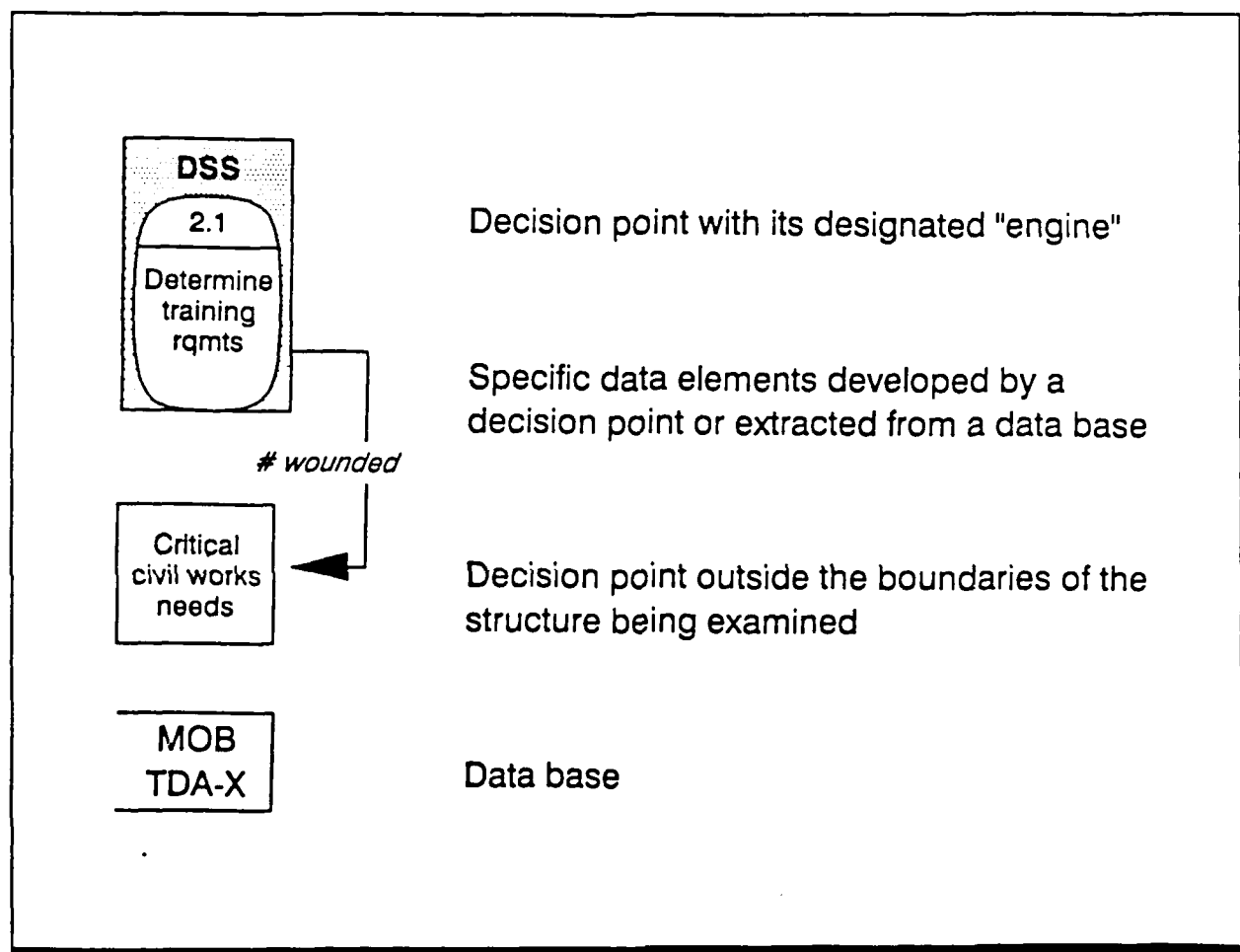


Figure A-1. The Structured Analysis Language.

SYSTEM DESCRIPTIONS

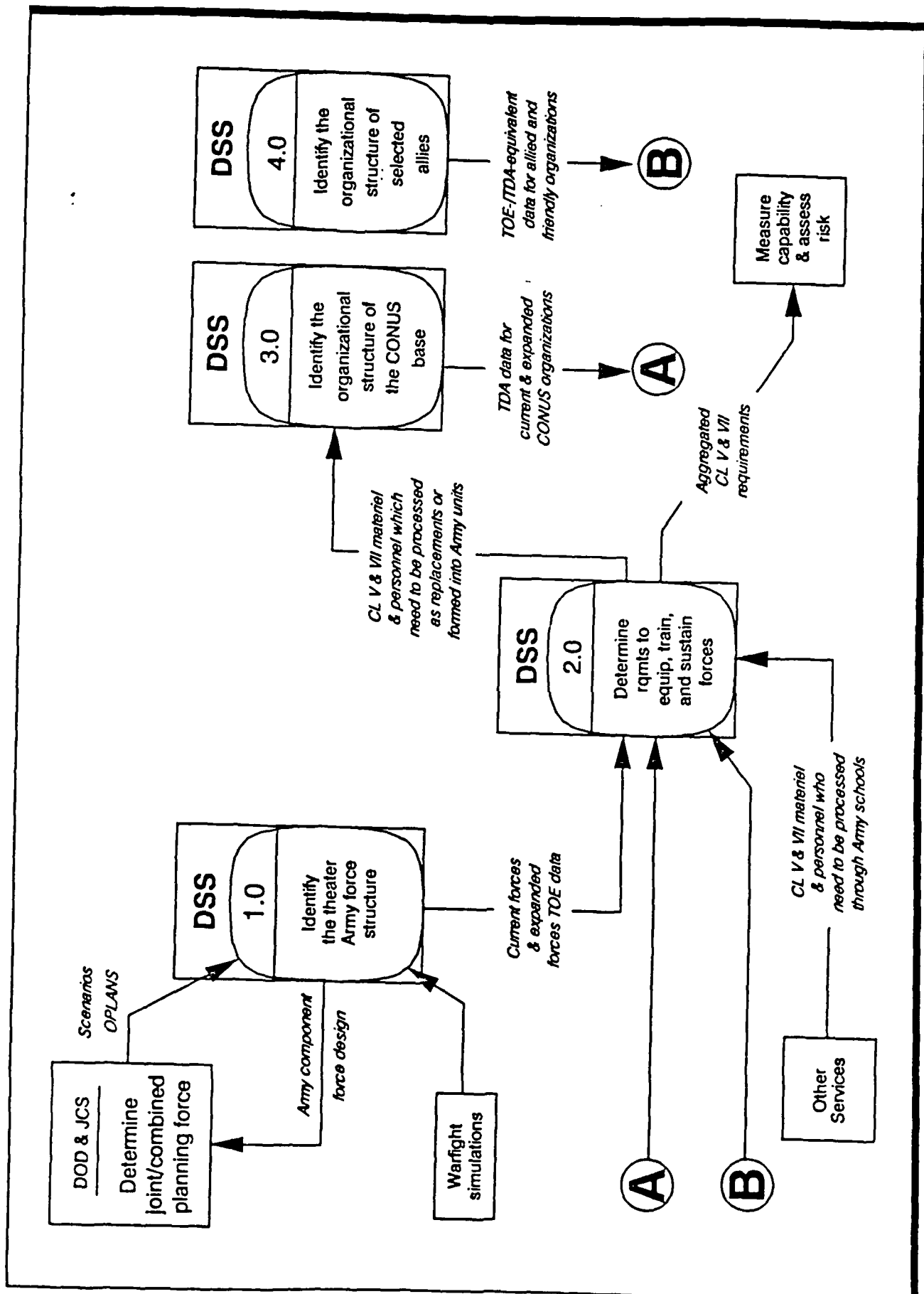


Figure A-2. Overview of the MOBNET Requirements Determination System.

4. **System Overview.** MOBNET is composed of four component decision points. Figure A-2 graphically describes the system recommended for determining mobilization materiel and munitions requirements.

a. (Decision Point 1.0) The Joint Chiefs of Staff (JCS) approve the operations plans (OPLANs) submitted by the various theater commanders (CINCs). They also develop the planning scenarios which depict reasonable sequences of political and military events leading to a decision by the United States to mobilize its armed forces and engage in combat operations. Using the data from the OPLANs and the scenarios, the Army--through its analytic arm, the Concepts Analysis Agency (CAA)--determines the force structure that is required to execute the Army portion of the OPLAN. The data produced at the conclusion of the CAA and subsequent Army staff analyses consist of specific Tables of Organization and Equipment (TOE) information for each combat, combat support, and combat service support unit in the combat theater(s). This is a total accounting of *not only the current force (active and reserve component units), but also the forces which need to be added to expand the Army's capability enough to execute the national strategy.* The force structure information is the keystone used to develop materiel and ammunition requirements for the U.S. Army.

b. (Decision Point 2.0) All materiel and munitions requirements can be accounted for through one of three activities:

(1) Materiel and ammunition are required as initial issue to all deploying U.S. Army theater forces and to all those Army organizations remaining within the territories of the continental U.S. (CONUS). There may well be requirements to equip brand new allied units or units from non-allied but friendly polities. The sister services will also generate a measurable requirement for Army-managed materiel to equip their military formations.

(2) Classroom and field training of personnel and units will generate requirements for Class V and VII materiel. Although most of the training needs will be driven by U.S. Army inductees and formations, non-U.S. training and training of Navy, Air Force, and Marine personnel will also represent a significant part of the total training load.

(3) Sustainment considers not only the sustainment needs of U.S. Army but also the needs of the other services and non-U.S. units for Army-managed items.

c. (Decision Point 3.0) The size and structure of the CONUS base is dependent on the numbers of people and the amount of materiel required to equip, train, and sustain the force. For example, as more *trainees* enter the system, more *trainers* and training equipment are needed to accomplish the training. In turn, a need for more trainers translates into a requirement to train more trainers--themselves creating an additional need for trainers. This iterative process is inferred from the two data arrows: one exiting decision point 3.0 and entering 2.0 and the other exiting 2.0 and entering 3.0.

d. (Decision Point 4.0) The final component of MOBNET involves determining the allied and friendly military support requirements. Selected allies and friends will be eligible for materiel support from the U.S. production base. Eligibility of candidate foreign military formations for U.S. support is determined by a relative assessment of their importance to the political and military goals of the United States.

e. The aggregated Army requirements are then measured against the capability of the industrial base to satisfy them. There are several models which are designed to do this comparative analysis.

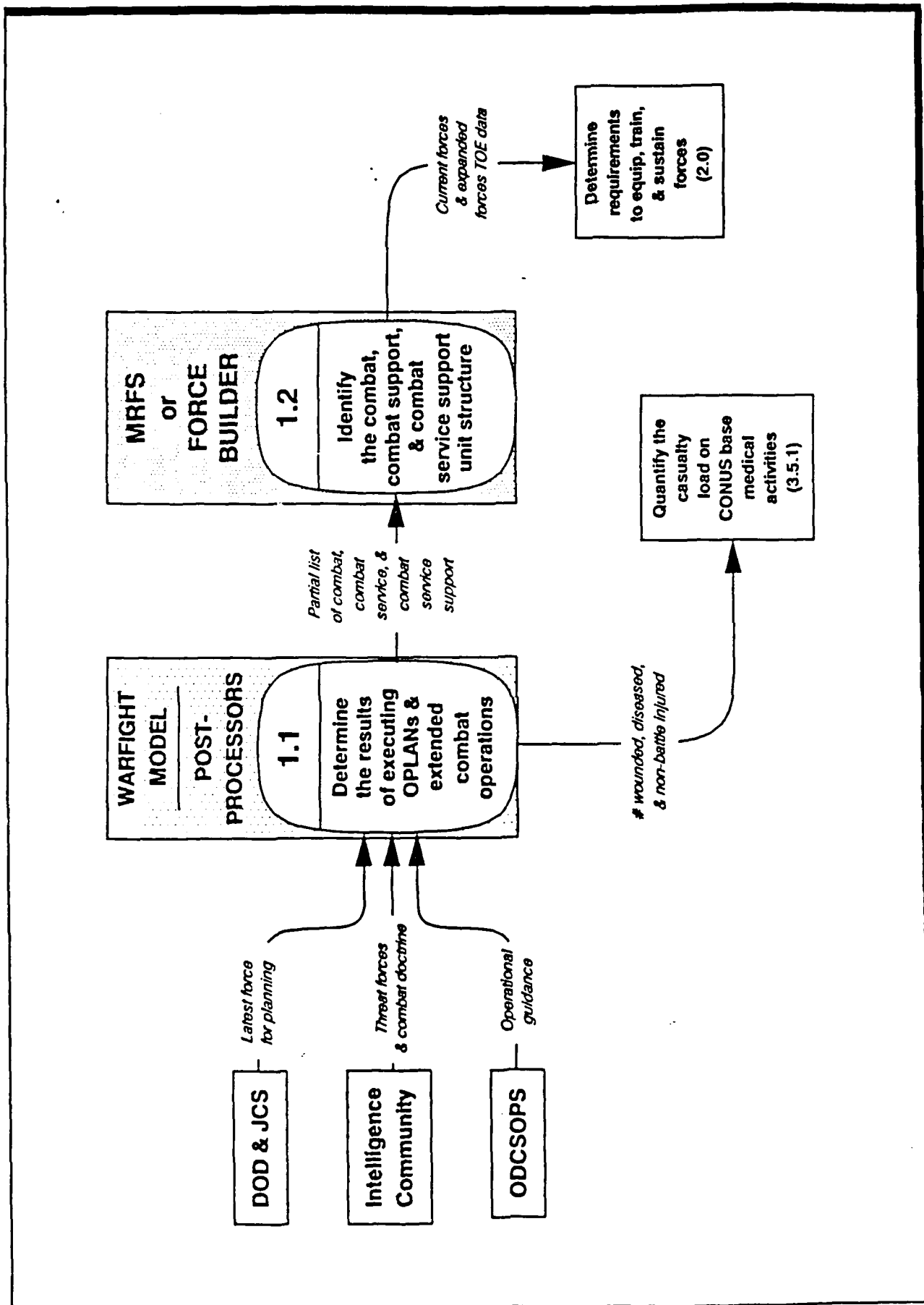
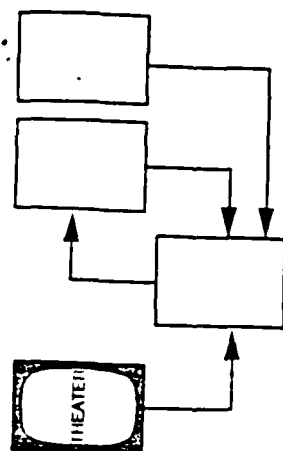


Figure A-3. Identify the Theater Army Force Structure.

5. Identify the Theater Army Force Structure (Decision Point 1.0). Identifying the full composition of the theater forces is of fundamental importance to the determination of requirements. The composition and size of the forces deployed to the combat theaters has a direct influence on both the composition and size of the CONUS base organization and the materiel necessary to equip, train, and sustain the total Army. The structure of the deployed forces also influences the size and structure of non-U.S. forces supporting the United States militarily. Figure A-3 shows the major components of Decision Point 1.0.



a. (Decision Point 1.1) JCS-approved, notional force structures and OPLANs are provided to CAA (through the Office of the Deputy Chief of Staff for Operations and Plans [ODCSOPS]) as planning guidance.² Intelligence data about the threat's military formations and combat doctrine are received from the Defense Intelligence Agency. Guidance governing specific modeling excursions, play of advanced weapon systems, and deployment of expanded force units is furnished by ODCSOPS. These data are the grist for the warfight model and post-processors.³ The warfight model generates a casualty count which is used by the CONUS-base medical commands to generate their requirements. It currently generates variable rates of advance and retreat based on friendly-threat force ratios which are used by the Mid-Range Force Study (MRFS) in order to flesh out the force structure.

b. (Decision Point 1.2) The MRFS uses the Force Design Model to develop a partial list of combat, combat support, and combat service support formations. Unit allocation rules and data from the *Army Force Planning Data and Assumptions* complement the Force Design Model to flesh out the theater force structure. In the alternative, another model--Force Builder--is also capable of designing a complete force without resort to supporting off-line analysis.⁴ Whichever model is ultimately used, it must produce a complete laydown of the theater forces--and, it must provide a unit-by-unit designation of TOEs (or comparable data tables such as Modified or Living TOEs). The TOE catalog of unit materiel requirements by Line Item Numbers is a particularly important aspect of the MOBNET requirements determination system.

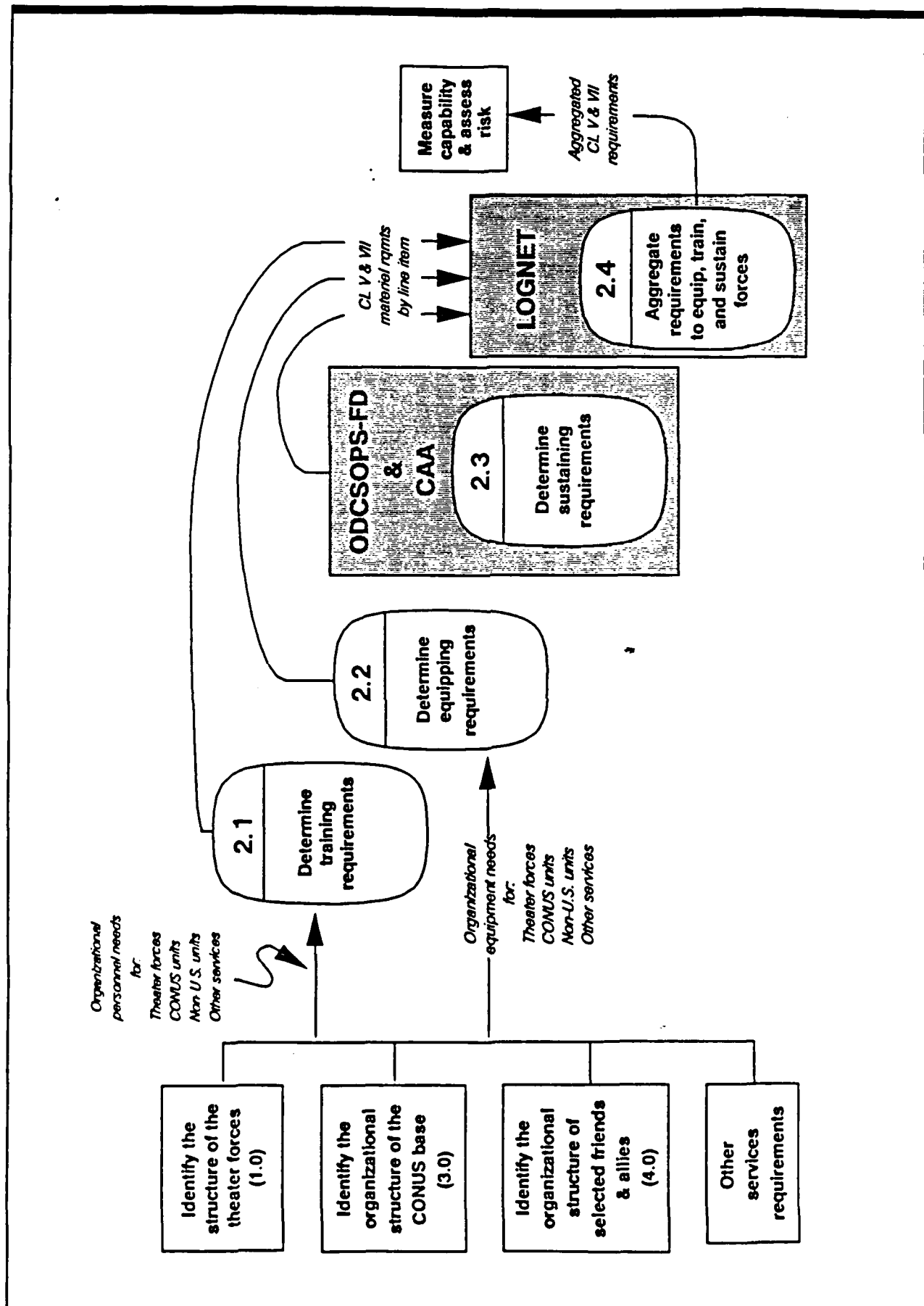


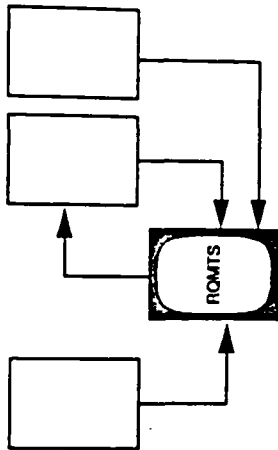
Figure A-4. Determine Requirements to Equip, Train, and Sustain.

6. Determine Requirements to Equip, Train, and Sustain Forces (Decision Point 2.0).

a. This sub-system (Figure A-4) determines the equipment and munitions requirements to support theater forces, CONUS-base organizations, other services, and non-U.S. formations. The other decision points--1.0, 3.0, and 4.0--develop the force structure and organizational data necessary for calculating materiel requirements for U.S. Army and allied or friendly forces which, when coupled with requirements from the other services, give the total demand for Army-managed Class V and Class VII materiel. Decision points 2.1 and 2.2 are decomposed and presented in detail in following paragraphs.

b. The Force Development staff of ODCSOPS, in conjunction with CAA, is currently reexamining the controversial issues of materiel combat loss and expenditure rates generated by the CAA combat models and used to determine materiel requirements. Until more details are available, the specific components of the sustainment sub-system (Decision Point 2.3) remain undefined. *However, as design of the sustainment system progresses, the developers must be sensitive to the mobilization community's need for detailed item-by-item information about the additional equipment and ammunition requirements.*

c. Decision Point 2.4 represents a simple aggregation of the Class V and VII requirements developed by the other decision points in the sub-system. The Logistics Network (LOGNET) is an excellent candidate DSS for collecting data from the various component systems. Its flexibility enables LOGNET to accept and manipulate data that come in a variety of formats.



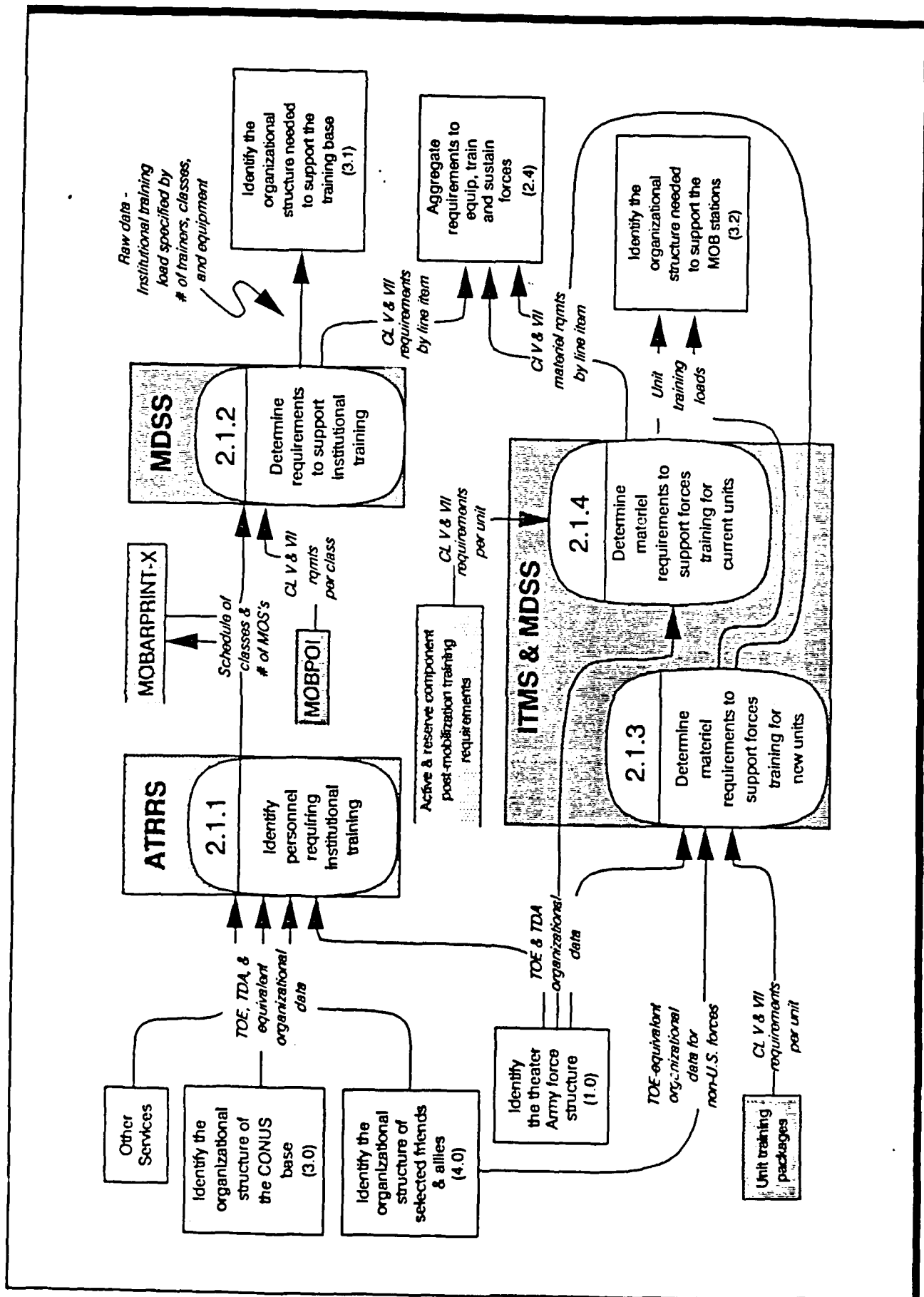


Figure A-5. Determine Training Requirements.

7. Determine Training Requirements (Decision Point 2.1). Figure A-5 presents the detailed components of Decision Point 2.1 which determine the materiel requirements to conduct both institutional training (e.g., basic and military occupational skill [MOS] training) and forces training (e.g., unit tactics and battle drills). *It is important to distinguish between the materiel requirements to support the actual training--the subject of Decision Point 2.1--and the requirements to support the organizations responsible for conducting the training or providing the training facilities--the subject of Decision Points 3.1 and 3.2 discussed later.*

Decision Points 2.1.1 and 2.1.2 track the processes for measuring the requirements for institutional training, while Decision Points 2.1.3 and 2.1.4 track the processes for forces training.

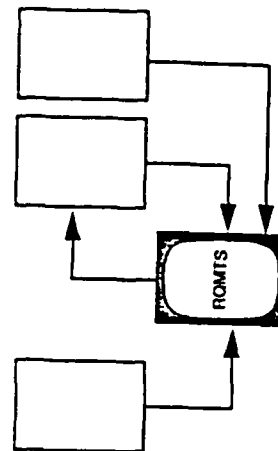
a. (Decision Point 2.1.1) Using TOE, Table of Distribution and Allowances (TDA), and equivalent data from the other services and non-U.S. forces, the Army Training Requirements and Resources System (ATRRS) generates the Mobilization Army Program For Individual Training - Expanded (MOBARPRINT-X).⁵ The MOBARPRINT-X is a acronym coined by ESC to denote an ARPRINT- or MOBARPRINT-like document that incorporates training data for the new units added to the force structure during a total mobilization. The ATRRS needs only a detailed breakdown of the expanded force structure to generate such a document.

b. (Decision Point 2.1.2) The schedules of training classes and the numbers of students entering MOS training are extracted from the MOBARPRINT-X. The ammunition and equipment requirements for each class of instruction are documented in the Mobilization Programs of Instruction (MOBPOI). The Mobilization Decision Support System (MDSS) combines the information from these two data bases to determine the Class V and VII requirements for institutional training, which are passed to Decision Point 2.4 for aggregation. ATRRS also defines the expected training load. Specific data are passed to Decision Point 3.1 to determine the support needs of the CONUS training base: number of trainers necessary to process the flow of trainees; the number of concurrent classes (generating needs for new facilities for classrooms, messing, roads, etc.); and non-training equipment (e.g., mess equipment, generators, vehicles to transport students between class locations).

c. (Decision Point 2.1.3) Participation in forces training is required for new Army units deploying to theater and for non-U.S. forces which the United States opts to train. Lists of the specific types

of units which need to be trained are taken from Decision Points 1.0 and 4.0. The number and types of units needed define the type of unit training needed. Unit training packages similar to the training modules of the Army Training and Evaluation Program (ARTEP) provide the Class V and VII requirements for each unit in training. These data are collected by the Integrated Training Management System (ITMS), the Mobilization Decision Support System (MDSS), or a combination of the two systems for each training module. The result is the total Class V and VII requirement to process all new units through their requisite training cycles. Unit-training loads are passed to Decision Point 3.2 for further processing.

d. (Decision Point 2.1.4) The ITMS and MDSS are also used to calculate the requirements to support unit training for unresourced current force units and for those current force units which lack the cohesiveness essential to deploy to a combat theater. Decision Point 1.0 provides the structure of the current force. A data base similar in content to the unit training packages provides the materiel requirements for each module of training as well as a modified mobilization training schedule. The result is the total Class V and VII requirement to support unit training for the current force. Unit-training loads are passed to Decision Point 3.2 for further processing.



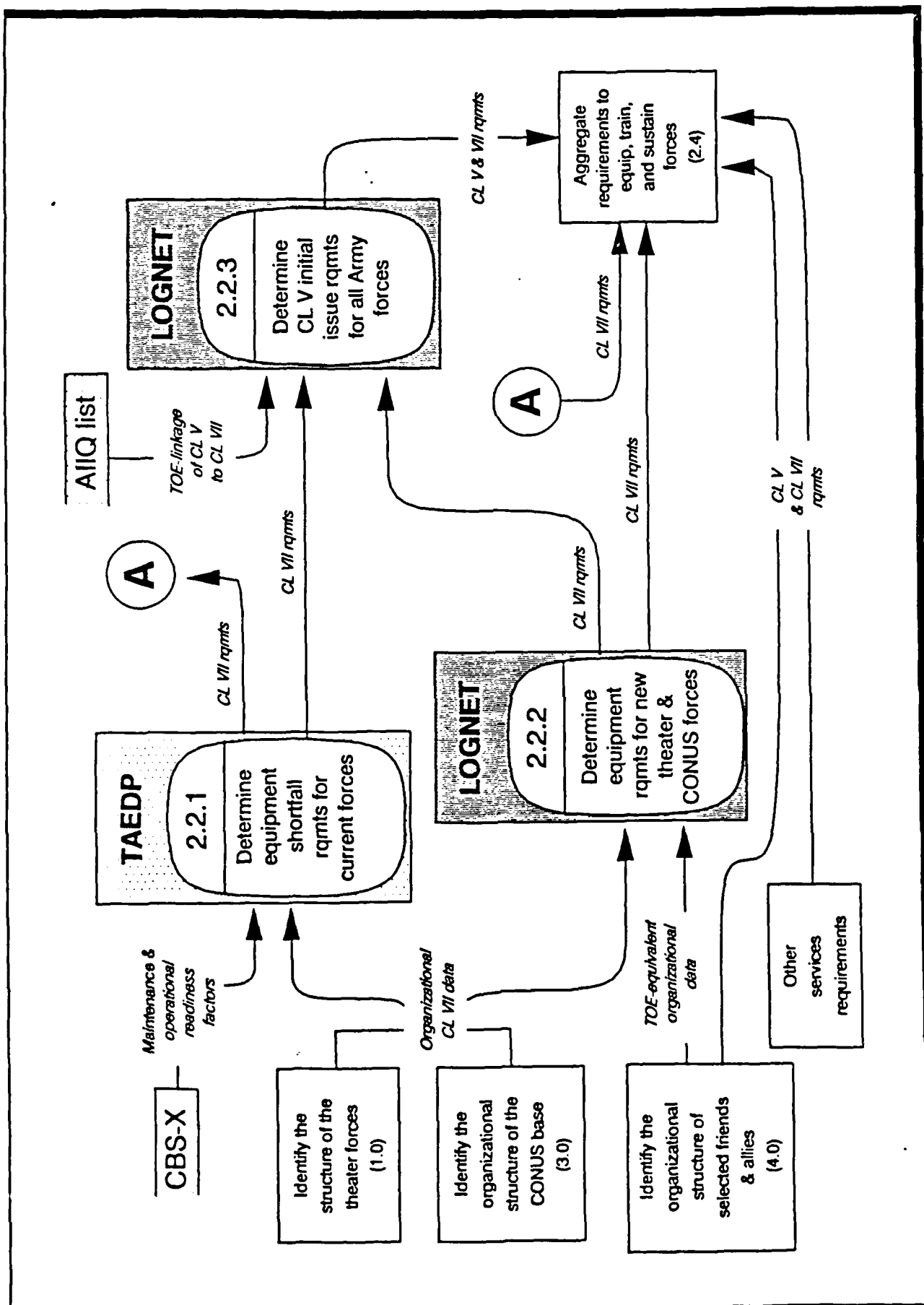


Figure A-6. Determine Equipping Requirements.

8. **Determine Equipping Requirements (Decision Point 2.2).** Figure A-6 graphically shows the decision system which results from decomposing Decision Point 2.2. Decision Points 2.2.1 and 2.2.2 measure, respectively, the equipment necessary to eliminate shortages within the current force and to build new units from scratch. Decision Point 2.2.3 estimates the munitions required as initial issues for all weapons systems added to the inventory.

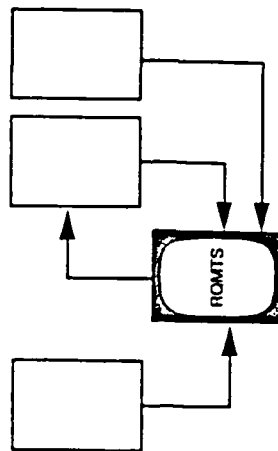
a. (Decision Point 2.2.1) The Total Army Equipment Distribution Program (TAEDP) takes the line-item equipment data from the TOEMOBTDAX data base, combines them with maintenance and operational readiness factors from the Continued Balance System Expanded (CBS-X), and calculates the Class VII requirement for current force units which are less than fully resourced or completely unresourced (COMPO-4). The total Class VII requirement is passed to Decision Point 2.4 to be aggregated. Those Class VII items which are weapons systems or platforms and which, therefore, generate an ammunition requirement are passed to Decision Point 2.2.3 for further processing.

b. (Decision Point 2.2.2) Logistics Network (LOGNET) accesses specific line-item equipment requirements for new units built to expand theater and CONUS base formations. It also accesses line-item equipment requirements for non-U.S. units in those instances that their support requests are presented as TOE-unit-equivalent packages (e.g., provide materiel for a new German armored formation equipped with U.S. equipment). Non-U.S. support requirements conceivably come in two formats: unit packages or as requests for specific amounts of single line items (e.g., an Afghan request for 200 Stinger missiles). The second request option is reflected by the passage of Class V and VII requirements from Decision Point 4.0 directly to Decision Point 2.4 to be aggregated. LOGNET manipulates these data elements to estimate the total Class VII requirements for building new units. The total requirements are passed to Decision Point 2.4 to be aggregated. The data for those equipment items which are consumers of ammunition are passed to Decision Point 2.2.3 for further processing.

c. (Decision Point 2.2.3) The Ammunition Initial Issue Quantity (AIQ) list provides the specific ammunition amounts authorized to be issued in support of each weapons system deployed. LOGNET combines the weapons systems' data obtained from Decision Points 2.2.1 and 2.2.2 with the AIQ data to generate the Class V

requirements to field units complete with their initial issue of ammunition.

d. Other Services Requirements. The Class V and VII requirements for the sister services are passed directly to the aggregation step, Decision Point 2.4.



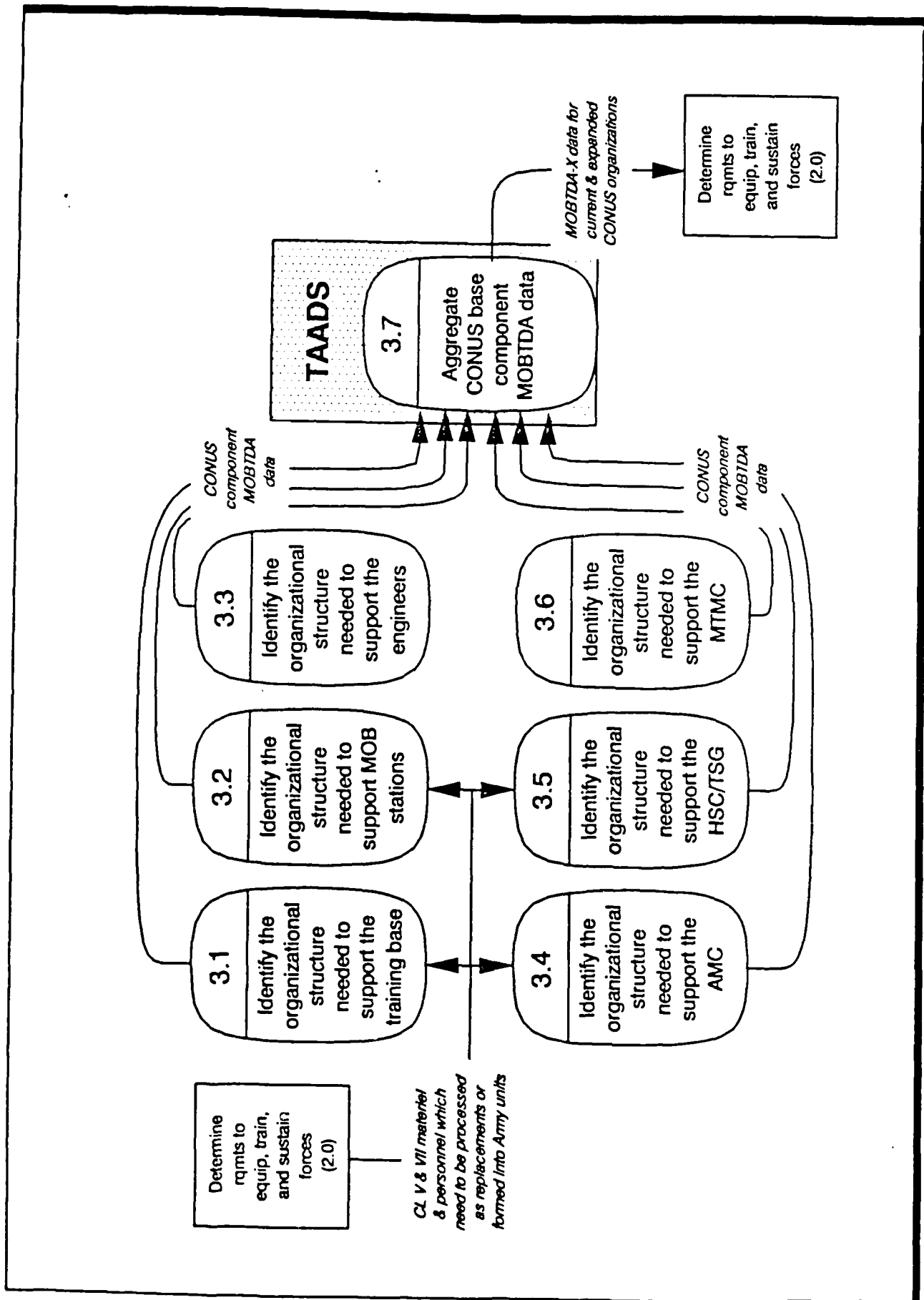


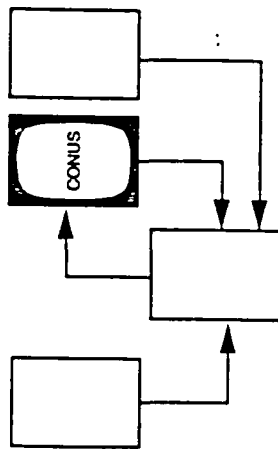
Figure A-7. Identify the Organizational Structure of the CONUS Base.

9. **Identify the Organizational Structure of the CONUS Base** (Decision Point 3.0). Decision Point 3.0 (see Figure A-7) does not measure materiel requirements directly. It develops the organizational structures needed by the Army's CONUS base to support mobilization. The specific organizational needs of the component CONUS commands are fed back to Decision Point 2.0 in the form of MOBTDA data to determine the materiel required to equip, train, and sustain the CONUS base.

a. In general, the composition of the training bases, mobilization stations, Army Materiel Command (AMC) activities, and the medical community (HSC) are dependent on the size and structure of the forces passing through the CONUS base for initial equipage and training and their post-training sustainment.

b. The engineer and transportation (MTMC) activities, on the other hand, develop their organizational needs based on the support demanded by the other four CONUS base components. For example, a new unit that falls in on a mobilization station might well create a demand for increased facility construction. The construction requirement, however, is identified not in the combat unit's TOE documents but in the mobilization station's MOBTDA documentation.

c. Logistics Network (LOGNET) is used to aggregate the materiel requirements reflected in the MOBTDA's of all six component elements of the CONUS base.



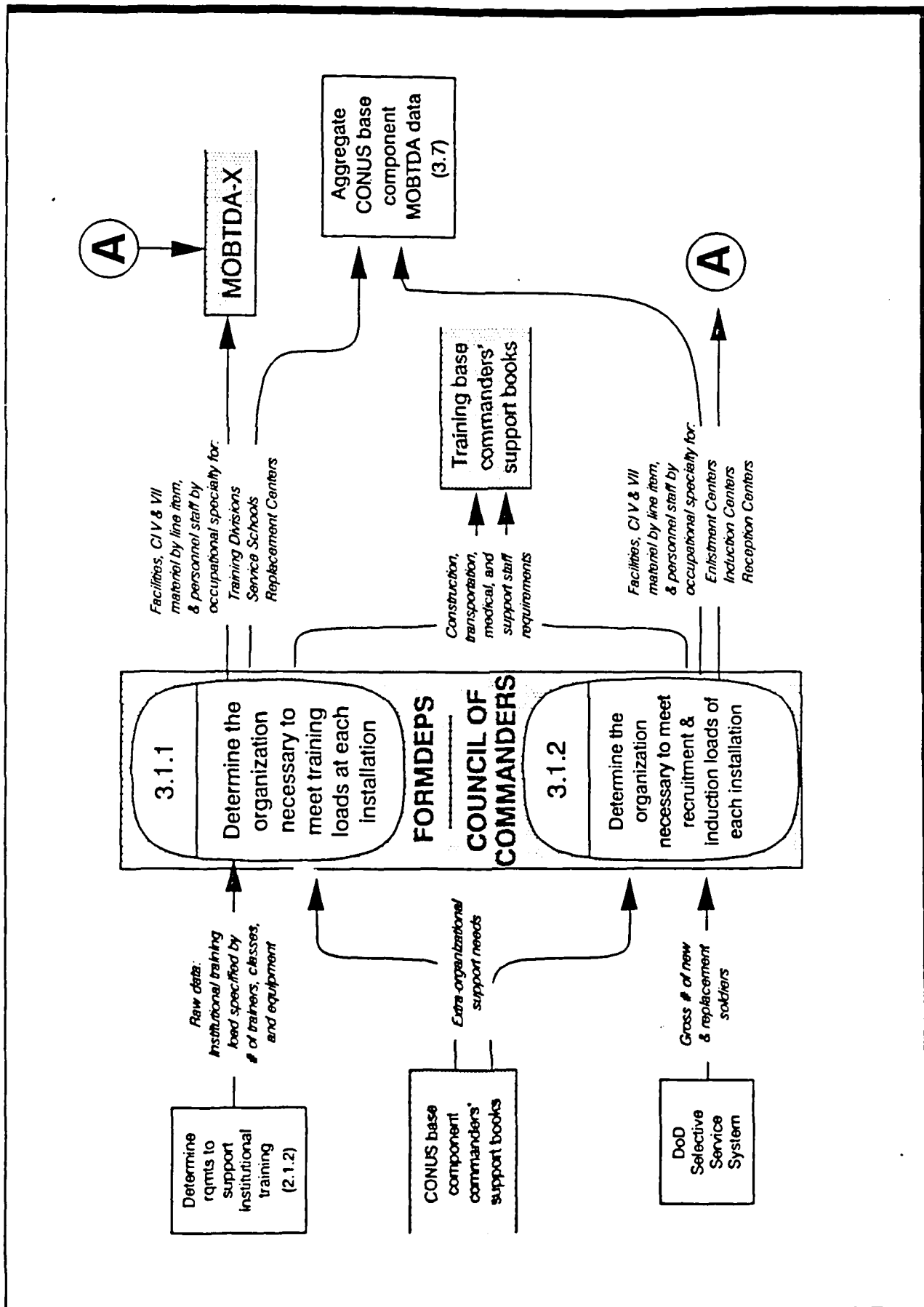


Figure A-8. Identify the Organizational Structure Needed to Support the Training Base.

10. Identify the Organizational Structure Needed To Support the Training Base (Decision Point 3.1). Figure A-8 shows the decomposed structure of Decision Point 3.1. The training base consists of two decision points. One defines the organizational structure necessary to provide adequate institutional training to recruits and volunteers, the other defines the structure necessary to process civilians into military service.

a. (Decision Point 3.1.1)

(1) The Mobilization Decision Support System, at Decision Point 2.1.2, generates training load data which are characterized by the number of training personnel necessary to teach the syllabi, the number of separate classes of instruction, and--from the Programs of Instructions--the amount of materiel needed to support the instructors (e.g., the number of radios needed to coordinate firing range activities).

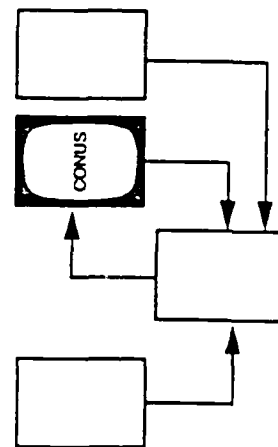
(2) The CONUS base component commanders' support books are imaginary documents which contain compilations of unit requirements. They represent the component commanders' best initial estimate of requirements for extra-organizational support and may actually be represented by staff reports, hand-written notes, or expert testimonies. ESC settled on the idea of support books to emphasize the need for intra-command coordination and to simplify the decision structure.

(3) The council of commanders is a phrase used to describe the process used by representatives of the different CONUS base component organizations to assemble their own and the installation commander's MOBTDAs. Typically, the installation coordinates meetings with representatives from its own staff, each tenant activity, and supporting CONUS commands during which mobilization support is negotiated. Negotiated support might include, among others: a central mess facilities; a central health unit or hospital; a motor pool; and, most certainly, buildings for office space. Certain of these requirements are met by the installation (e.g., mess facilities, distribution of existing office space, etc.) while others are met by CONUS base component commands (e.g., health units and hospitals [HSC and MEDCOM] and new facilities [Corps of Engineers]). The interrelationships among the CONUS base component elements necessitates this close coordination.

(4) The council of commanders and the component commanders' support books reappear as a decision point and a data base for each of the third tier CONUS base component structures. They can be viewed as the coordinating linkage between the organizations that make up the CONUS base.

(5) Following the guidance set forth in the U.S. Army Forces Command Mobilization and Deployment Planning System (FORMDEPS), the council of commanders examines the support needs of the training divisions, service schools, and replacement centers. The result is a list of ammunition, equipment, and personnel requirements which is the basis for updating unit MOBTDAs.⁶ If the training base commander is a tenant of another command's installation, he documents the extra-organizational support requirements in the training base commanders' support book. If the training base commander is also the installation commander, the MOBTDAs reflect the support needs of the tenant activities--including their need for facilities.

b. (Decision Point 3.1.2) The capacity of the DoD selective service system determines the processing load through the recruitment, induction, and reception centers which, in turn, determines the organizations' staff and equipment needs. Installation support needs for tenant activities are considered where appropriate. Requirements data are used by the council of commanders, following FORMDEPS guidance, to build the MOBTDAs for the enlistment, induction, and reception centers.



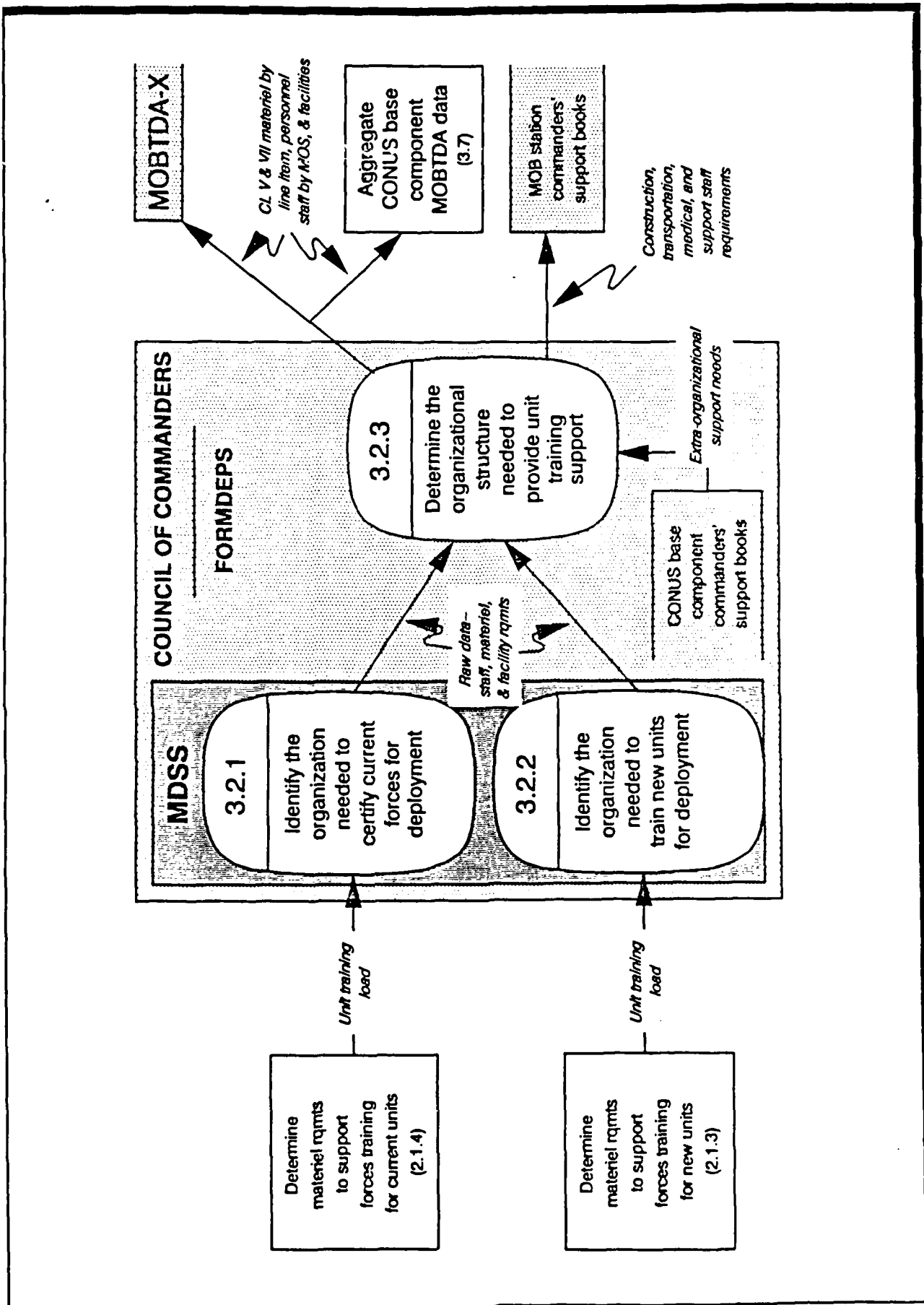
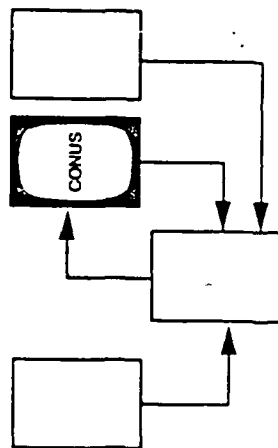


Figure A-9. Identify the Organizational Structure Needed to Support Mobilization Stations.

11. Identify the Organizational Structure Needed To Support Mobilization Stations (Decision Point 3.2). Figure A-9 shows the decomposed structure of Decision Point 3.2. It examines requirements generated by two categories of unit training. The first is the training needed by current force units which, for a variety of reasons, lack the full complement of training necessary to be certified combat-worthy for overseas deployment. The second category is the training needed to transform MOS-school graduates and cadre into new units capable of deploying to combat.



a. (Decision Point 3.2.1) The Mobilization Decision Support System (MDSS) converts unit training load data taken from decision point 2.1.4 into staff, materiel, and facility requirements for current force units.

b. (Decision Point 3.2.2) The MDSS also converts unit training load data taken from decision point 2.1.3 into staff, materiel, and facility requirements for new units for the expanded force.

c. (Decision Point 3.2.3) The MDSS develops requirements data which need to be further refined through the council of commanders process (see discussion of this process beginning in paragraph 10.a.(2) on page 19). This process results in a definition of the equipment, ammunition, and personnel needed to staff the mobilization station which is used to develop the MOBTDA-Xs. Under today's guidelines all mobilization station commanders are also installation commanders. Therefore, the MOBTDA-Xs will include the extra-organizational requirements to support the tenant activities. Should a future mobilization station staff find itself a tenant activity, it would develop a commander's support book delineating its extra-organizational support requirements.

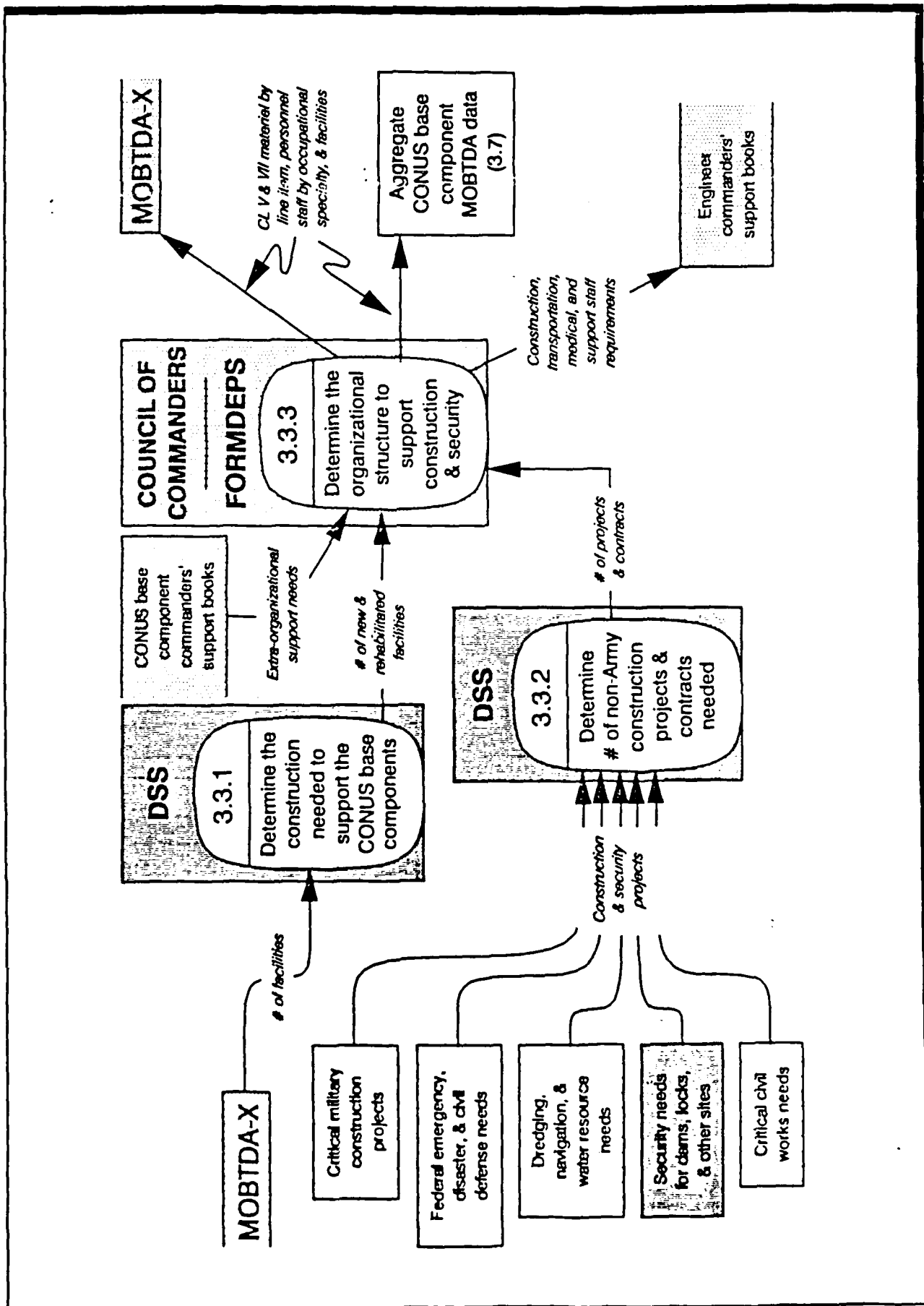
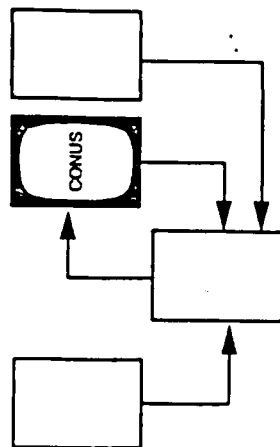


Figure A-10. Identify the Organizational Structure Needed to Support the U.S. Army Corps of Engineers.

12. Identify the Organizational Structure Needed To Support U.S. Army Corps of Engineers (Decision Point 3.3). Figure A-10 shows the decomposed structure of Decision Point 3.3. The Corps of Engineers is responsible not only for constructing and rehabilitating facilities to support the influx of personnel and units into the force but also for supporting the construction needs of other Federal departments and agencies. A third, relatively new mission, is to maintain security for dams, locks, and other sites managed by the Corps.



a. (Decision Point 3.3.1) The MOBTDA-Xs provide the basic requirements data for facility construction. Included in the MOBTDA-X format is an explicit breakdown of the amount and type of construction needed at each installation. The Corps of Engineers needs to develop an automated support system which can access the MOBTDA-X data line item by line item. The product of the decision support system would be a compilation of the number of facilities needed at each and all installations.

b. (Decision Point 3.3.2) The Corps of Engineers has other support requirements during mobilization. Critical military projects not included on any installation's MOBTDA-X demand resources. Engineer support for disasters and civil defense, for the nation's waterways, for critical civil works projects, and for special security needs also demand resources to manage projects and to let and monitor contracts. The Corps needs to develop a DSS which would access these data and determine the probable resource needs.

c. (Decision Point 3.3.3) Decision points 3.3.1 and 3.3.2 develop organizational staffing requirements data which need to be further refined through the council of commanders process (see discussion of this process beginning in paragraph 10.a.(2) on page 19).

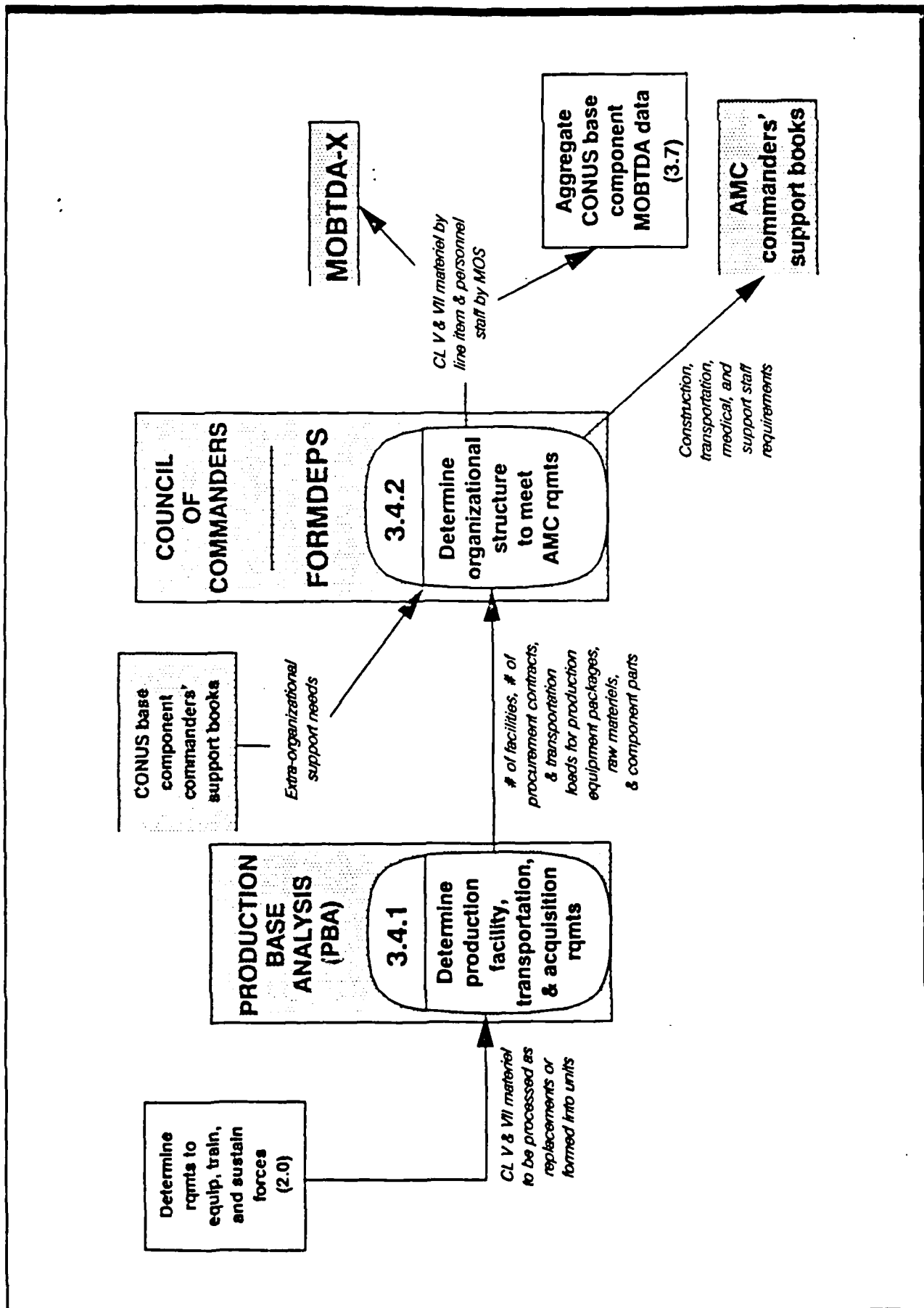
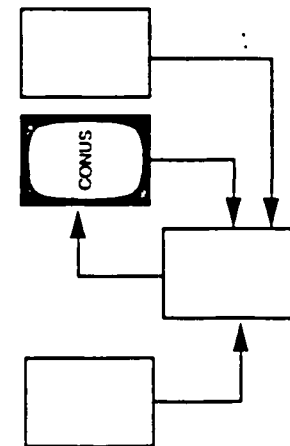


Figure A-11. Identify the Organizational Structure Needed to Support the Army Materiel Command.

13. Identify the Organizational Structure Needed To Support the Army Materiel Command (Decision point 3.4). Figure A-11 shows the decomposed structure of Decision Point 3.4. The Army Materiel Command manages its own production facilities in addition to managing contracts for domestic military production efforts.



a. (Decision Point 3.4.1) Decision Point 2.0 provides the aggregated equipment and ammunition requirements for the total force under consideration. From these, the Production Base Analysis determines the number of facilities and procurement contracts and the transportation support to move production equipment packages, raw materials, and component parts to appropriate production facilities.

b. (Decision Point 3.4.2) These organizational staffing requirements data are further refined through the council of commanders process (see discussion of this process beginning in paragraph 10.a.(2) on page 19).

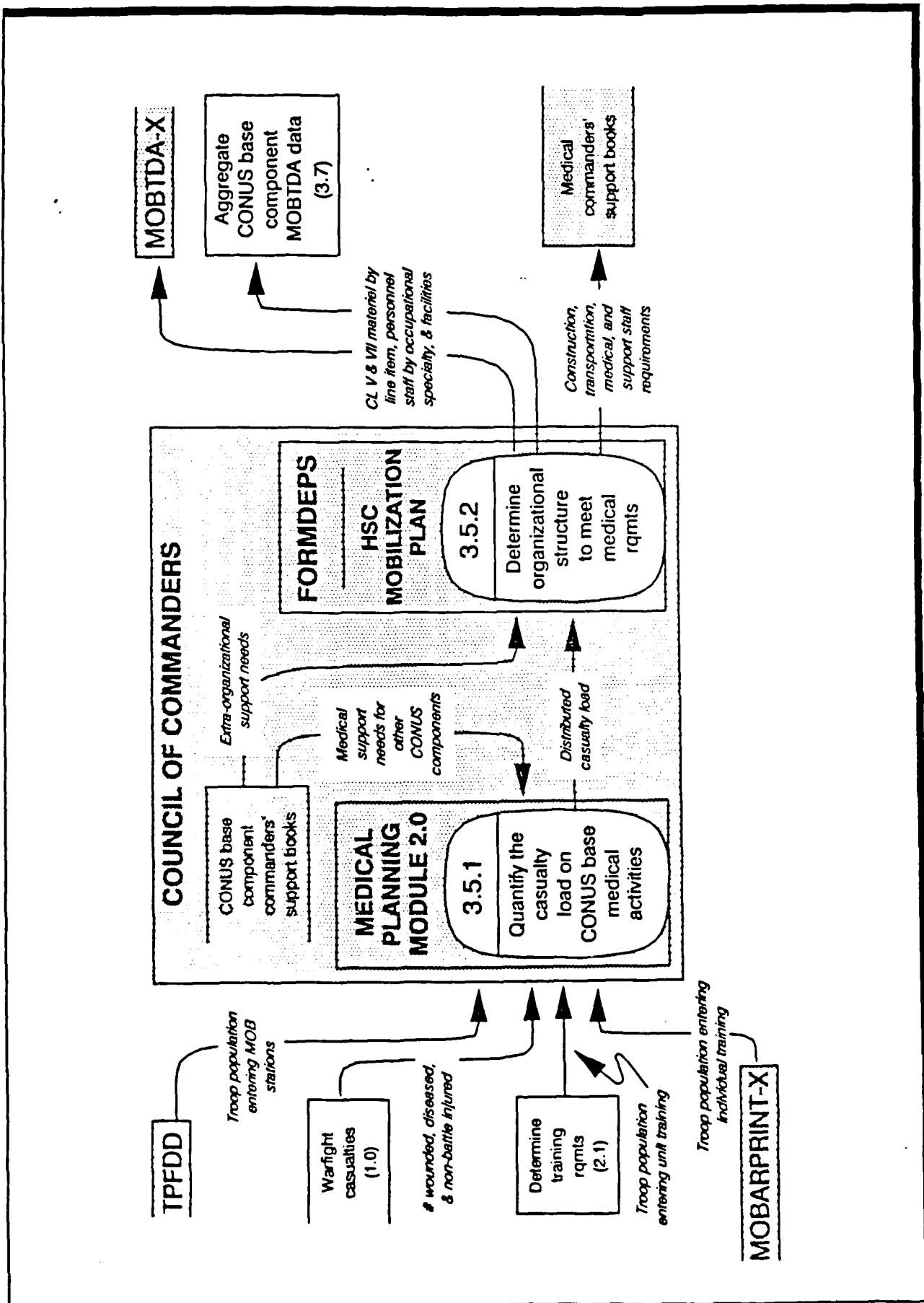
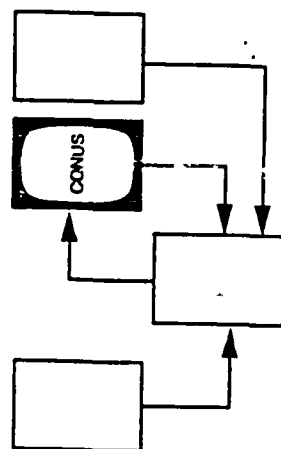


Figure A-12. Identify the Organizational Structure Needed to Support the Medical Components.

14. Identify the Organizational Structure Needed To Support the Medical Components (Decision Point 3.5). The medical components consist of elements of the Health Services Command and The Surgeon General. Figure A-12 shows the decomposed structure of Decision Point 3.5.

a. (Decision Point 3.5.1) The Medical Planning Model 2.0 calculates the casualty load distributed over the course of the warfight scenario. The model extracts the troop population at mobilization stations from the Time-Phased Force Deployment Data (TPFDD). These data provide a basis for estimating training casualties expected within the current force. The warfight models (Decision Point 1.0) establishes the number of combat casualties, while Decision Point 2.1 and, specifically, the MOBAPRINT-X provide the expanded-force troop populations for unit and individual training, respectively. Also included in the calculations are the medical support needs of the other CONUS elements obtained during the council of commanders.

b. (Decision Point 3.5.2) Using FORMDEPS guidance and the Health Services Command Mobilization Plan, the council of commanders refines the distributed casualty load data and the support needs of tenant activities, when appropriate. The resulting organizational staffing data are fed into the CONUS aggregation of MOBTDA data, the MOBTDA-X, and the commanders' support books (see discussion of this process beginning in paragraph 10.a.(2) on page 19).



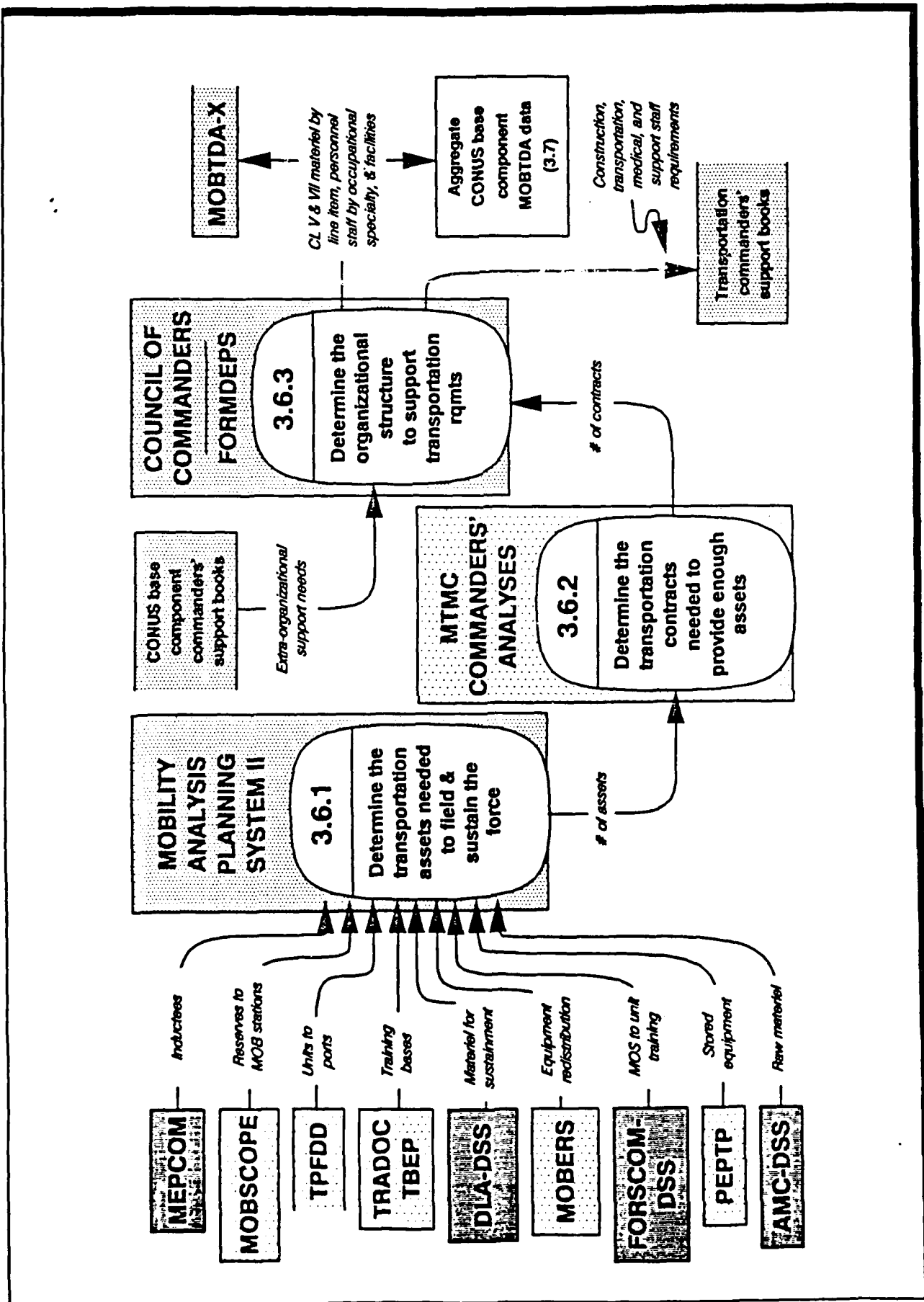


Figure A-13. Identify the Organizational Structure Needed to Support the Transportation Components.

15. **Identify the Organizational Structure Needed To Support the Transportation Components** (Decision Point 3.6). The Military Traffic Management Command provides commercial line haul, rail, and airlift assets to support the mobilization requirements of the three military services within the continental United States. Figure A-13 shows the decomposed structure of Decision Point 3.6.

a. (Decision Point 3.6.1) To estimate transportation requirements, the Mobility Analysis Planning System II (MAPS-II) accepts transportation requirements data from nine sources:

(1) The Military Entrance Processing Command provides data on the movement of inductees.

(2) Movement requirements of reserve units to the mobilization stations are documented in the Mobilization Shipments Configured For Operational Planning and Execution (MOBSCOPE).

(3) The requirements to move troop units to ports for strategic overseas deployment are obtained from the Time-Phased Force Deployment Data (TPFDD).

(4) TRADOC's Training Base Expansion Plan (TBEP) provides the movement requirements to support the training bases.

(5) The Defense Logistics Agency provides the transportation requirements to support the movement of materiel to sustain forces in both the theater of conflict and the continental United States.⁷

(6) The Mobilization Equipment Redistribution System (MOBERS) managed by the Office of the Deputy Chief of Staff for Logistics provides movement data for redistributing TOE equipment in order to improve unit readiness prior to deployment.

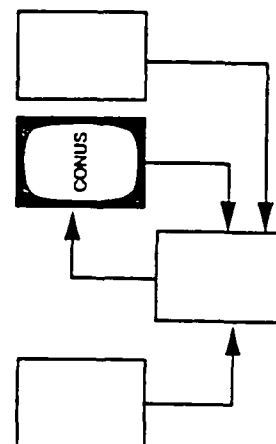
(7) FORSCOM provides data for the movement of soldiers from MOS training installations to mobilization stations for unit training or to replacement centers for further deployment to theater.

(8) AMC's Production Equipment Package Transportation Plan (PEPTP) provides the transportation requirements to move production machinery from storage sites to production lines.

(9) AMC provides the transportation requirements data for moving materials from the ore processing stage, through the several production tiers, to the final assembly stage.⁸

b. (Decision Point 3.6.2) Given the gross number of transportation assets requirements generated by Decision Point 3.6.1, the MTMC commanders must determine the number and types of service contracts to be let to commercial carriers. The number of contracts that need to be managed is a measure of the staffing requirements.

c. (Decision Point 3.6.3) These organizational staffing requirements data are further refined through the council of commanders process (see discussion of this process beginning in paragraph 10.a.(2) on page 19).



16. Identify the Organizational Structure of Selected Friends and Allies (Decision Point 4.0). Certain allied nations and friendly foreign polities will be critically important to the strategic goals of the United States. A decision to support such groups with U.S.-produced materiel may significantly drain the nation's production capability. Complete planning for mobilization requirements demands that planners give credence to the possibility that non-U.S. forces will pursue U.S. materiel assistance. Figure A-14 shows the decomposed structure of Decision Point 4.0

a. (Decision Point 4.1) The first step in determining the potential non-U.S. demand for materiel is to identify those forces which are likely to support U.S. political and military goals. An examination of the Operations and Concepts Plans (OPLAN/CONPLAN) prepared by the Joint Chiefs of Staff and the CINCs will reveal the number and types of friendly non-U.S. units considered to be significantly materiel to their strategic mission. However, the OPLAN/CONPLANs only provide detailed information on the forces of allied nations with which we have agreements for combined operations. Further intelligence analyses provide similar information for forces whose successes in combat are material to the global interests of the United States, but with which we have no treaty obligations. The order of battle for non-U.S. forces gives indication of non-U.S. battlefield priorities and goals, while the JCS and CINCs give the U.S. battlefield priorities. From this data, the decision makers determine those non-U.S. forces which have roles which are key to U.S. goals.

b. (Decision Point 4.2)

(1) The second step is to categorize the impact of allied or friendly forces and missions on U.S. forces and their missions. Those forces whose failure would be most deleterious to U.S. objectives are nominated as candidates for U.S. materiel support. The potential allied combat losses and their effect on the missions of U.S. forces are available from several institutionalized sources within the Army.

(2) For the NATO nations, the combat studies (the Program Force Capability Assessment [PFCA] and OMNIBUS) provide the combat-induced loss and expenditure for equipment and ammunition. For the Republic of Korea, the War Reserve Stocks Allies and the Critical Requirements Deficiency List define the high-priority resupply needs.

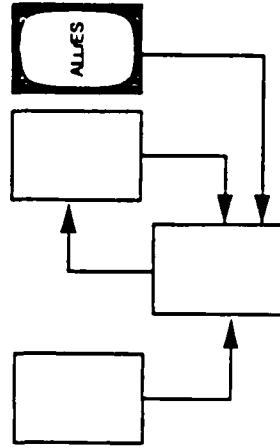
(3) Those forces friendly to the U.S. which are not included in the Army's combat models require other methods. The Army Logistics Center can estimate ammunition consumption rates for units using a PC-based model. Both the JCS's *Minimum Essential Security Assistance Requirement* (MESAR) and the Defense Security Assistance Agency's *Annual Integrated Assessment of Security Assistance* (AIASA) provide lists of potential equipment and ammunition requirements. Either or both of these data bases can be used.

c. (Decision Point 4.3) The final step is to develop either equivalent force lists for foreign armies or materiel lists which reflect the countries' explicit demands for materiel.

(1) The Intelligence and Threat Analysis Center (ITAC) provides the basic foreign force lists. These lists are valuable planning tools for those foreign forces whose organizational structure closely mirrors the forces of the United States. The support needs of these forces would be virtually identical to the needs of similar U.S. forces.

(2) Historical foreign sales data are reported by the Office of the Secretary of Defense (OSD) or the U.S. Army Security Assistance Center (USASAC). These data are a useful insight into what U.S. equipment exists in foreign armies and, therefore, what the potential demand for support might be.

(3) There are many foreign armies which are equipped with a few items of U.S. equipment but which have organizational structures very dissimilar to those of U.S. forces. In these instances, TOE- or TDA-equivalent structures are not helpful. Analyses by the intelligence community can provide relevant data as can an analysis of past requests for assistance (e.g. the British during the South Atlantic conflict with Argentina and the Israelis during the 1973 Arab conflict).



17. Summary.

a. The MOBNET system is an extremely complex web of integrated DSSs and data bases. Many components have yet to be developed or must undergo substantial modification before they can be assimilated. A considerable investment of time and resources is necessary to bring this network to fruition. The payoff, however, is a system that will prepare a credible estimate of the materiel requirements to support mobilization. Certainly all would agree that this is a goal worth striving for.

b. A considerable effort has been invested by the ESC analysts and untold dozens of staff representatives throughout the military community to fashion a workable approach to determining requirements. Above all else, however, the framework presented here should be viewed as a living system and ESC's work as only the first steps down the road to maturity. When DSSs or data sources evolve which are superior to those identified in the several figures of this annex, they should be examined for their worthiness as replacements.

NOTES

1. Mr. Douglas T. Ross, "Structured Analysis (SA): A Language for Communicating Ideas," *IEEE Transactions on Software Engineering*, January 1977.
2. The report speaks exclusively of the JCS Planning Force as defining the military population used to generate materiel requirements for mobilization. This definition conforms to the guidance given in *Defense Guidance and Army Mobilization Planning System (AMOPS)*, the mobilization planning policy guidelines for the Department of Defense (DOD) and Department of the Army, respectively. However, the reader should be aware that the selection of the Planning Force is purely arbitrary--any size force can be designated for input into this planning system.
3. Currently, the Concepts Evaluation Model (CEM) is the model of choice. However, the Force Evaluation Model (FORCEM) is designated to replace CEM. The particular model used is immaterial. However, it must be able to pit a designated U.S. force against a designated threat and generate casualties, equipment losses, and expenditures. Ultimately, it must report the TOE components of a complete force structure.
4. *Functional Description for the Force Builder Decision Support System*, prepared for the U.S. Army Force Development Support Agency, under Contract Number MDA903-88-C-0129 by Vector Research, Inc., 31 October 1988.
5. Tables of Organization and Equipment (TOE) provide a breakdown by line item, MOS, and grade of each unit type in the Army. Variations of the TOE include the Modified TOE (MTOE), the Draft TOE (DTOE), and the Living TOE (LTOE). The Tables of Distribution and Allowances (TDA) and their variant, mobilization TDAs (MOBTDA) display equipment and staff needs in a manner similar to the TOEs. The primary distinction between the two is that, in general, TOE units are designed to deploy to theaters of operations while TDA organizations are designed to remain in the continental United States (CONUS).
6. MOBTDA-X is a notional acronym which ESC uses to differentiate between the requirements of the current force during a mobilization (documented in MOBTDA) and those requirements which are generated not only by units of the current force but also those new units which will be added to the force structure during a total mobilization.
7. The figure shows this as a generic "DSS" or decision support system. This implies that, at the time of publication, no such system exists at the Defense Logistics Agency. Currently, Military Traffic Management Command (MTMC), the managing agency for MAPS-II, estimates these transportation requirements in order to run the model. This same situation exists with regard to the system labeled FORSCOM-DSS, which is discussed in paragraph (7) below.
8. Little information has been developed concerning this requirement for transportation support. There is sufficient anecdotal evidence to strongly suggest that this requirement may be very substantial.

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ANNEX B
MOBNET IMPLEMENTATION PLAN QUESTIONNAIRE

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MOBNET IMPLEMENTATION PLAN QUESTIONNAIRE

Prepared by

The U.S. Army Engineer Studies Center (ESC)

I. INTRODUCTION

1. MOBNET is a new planning concept developed by ESC for the Deputy Chief of Staff for Operations and Plans (DCSOPS) to calculate Class V and VII requirements (ammunition and equipment) to support any level of mobilization planning, up to and including **Total Mobilization**. The MOBNET concept is described in detail in Annex A of the ESC Report, *Army System For Mobilization Requirements Planning: Supply Classes V and VII (Ammunition and Equipment)*. A copy of this report is included with this questionnaire.

2. This questionnaire has been prepared to assist ESC in responding to a tasking by the Operations Readiness and Mobilization Directorate of the ODCSOPS, to develop a management plan that lists the steps and estimates the resources required to implement MOBNET.

3. The questionnaire is designed to solicit specific information needed by ESC to develop a plan outlining the actions that must be taken by the Army to establish MOBNET as an operational reality.

4. The major "decision points" which drive the requirements determination process embodied in the MOBNET planning concept are further defined.

DECISION POINT**ACTION**

- | | |
|-------|---|
| 1.0 | Identify the theater Army force structure. |
| 1.1 | Determine the results of executing OPLANS and extended combat operations. |
| 1.2 | Identify the combat, combat support, and combat service support unit structure. |
| 2.1.1 | Identify personnel requiring institutional training. |
| 2.1.2 | Determine requirements to support institutional training. |
| 2.1.3 | Determine materiel requirements to support forces training for new units |
| 2.1.4 | Determine materiel requirements to support forces training for current units. |
| 2.2.1 | Determine equipment shortfall requirements for current forces. |
| 2.2.2 | Determine equipment requirements for new theater and CONUS forces. |
| 2.2.3 | Determine Class V initial issue requirements for all Army forces. |
| 2.3 | Determine sustaining requirements. |
| 2.4 | Aggregate requirements to equip, train, and sustain all forces. |
| 3.1 | Identify the organizational structure needed to support the training base. |
| 3.1.1 | Determine the force structure necessary to meet training loads at each installation. |
| 3.1.2 | Determine the force structure necessary to meet recruitment and induction loads of each installation. |
| 3.2 | Identify the organizational structure needed to support mobilization stations. |
| 3.2.1 | Identify the organization needed to certify current forces for deployment. |
| 3.2.2 | Identify the organization needed to train new units for deployment. |
| 3.2.3 | Determine the organizational structure needed to provide unit training support. |
| 3.3 | Identify the organizational structure needed to support the Corps of Engineers. |
| 3.3.1 | Determine the construction needed to support the CONUS-Base components. |

Figure B-1. MAJOR DECISION POINTS

DECISION POINT**ACTION**

- | DECISION POINT | ACTION |
|----------------|---|
| 3.3.2 | Determine the number of non-Army construction projects and contracts needed. |
| 3.3.3 | Determine the organizational structure to support construction and security. |
| 3.4 | Identify the organizational structure needed to support the Army Materiel Command. |
| 3.4.1 | Determine production facility, transportation, and acquisition requirements. |
| 3.4.2 | Determine organizational structure to meet Army Materiel Command requirements. |
| 3.5 | Identify the organizational structure needed to support the Surgeon General. |
| 3.5.1 | Quantify the casualty load on CONUS-Base medical activities. |
| 3.5.2 | Determine organizational structure to meet medical requirements. |
| 3.6 | Identify the organizational structure to support the Military Traffic Management Command (MTMC). |
| 3.6.1 | Determine the transportation assets needed to field and sustain the force. |
| 3.6.2 | Determine the transportation contracts needed to provide enough assets. |
| 3.6.3 | Determine the organizational structure to support transportation requirements. |
| 3.7 | Aggregate CONUS-Base component MOBTDA data. |
| 4.1 | Identify friendly and allied forces most likely to support US military goals. |
| 4.2 | Assess how the success or failure of allied or friendly forces and missions will affect U.S. forces and missions. |
| 4.3 | Develop U.S.-equivalent force structure for non-U.S. forces and missions to be supported. |

Figure B-1. MAJOR DECISION POINTS

4. MOBNET was developed because the Army does not have a credible methodology for generating materiel requirements to achieve documented mobilization planning objectives. In order for MOBNET to function properly, all of the actions listed above must be executed in a timely and effective manner. Currently, however, many of these actions cannot be executed in a credible manner--especially those which need to be executed in order to generate force expansion requirements.

5. Therefore, ESC put together this questionnaire to solicit key information from subject-matter experts in an effort to more precisely determine the extent to which these actions can or cannot be executed. If certain actions cannot be executed today, ESC would like to know why. We would also like to know what steps could be taken to achieve the capability to execute these actions; and what costs are associated with implementing these steps.

II. INSTRUCTIONS FOR COMPLETION OF THE QUESTIONNAIRE

1. To avoid ambiguity and to establish clear lines of communication for DCSOPS and ESC to pursue in developing the MOBNET implementation plan, it is essential that this questionnaire be completed by one functional proponent. The functional proponent should be the key POC who has overall responsibility for executing the action defined in decision point _____. To answer the questions below, the single proponent should coordinate with other functional agencies, especially if they have a role in executing the action. A single, coordinated response to this questionnaire is a must.

2. This questionnaire requires you to answer the questions presented below only as they pertain to the action identified and described within the circle of decision point _____, found on page ____ of Annex A.

3. To help keep the decision point you are being asked about in context, please refer to Annex A of the attached report as you develop your answers.

4. Please feel free to amplify your answers with narrative comments. However, all answers should be typed, brief, and to the point!

III. QUESTIONNAIRE

QUESTION #1: Does the Army currently have the capability to effectively perform the action identified in decision point _____?

QUESTION #2: If this action cannot be performed today, is it because there are problems with respect to a:

- a) lack of policy guidance?
- b) gap(s) in the process outlined in MOBNET for executing this action?
- c) lack of credible data/information sources?
- d) insufficient resources?
- e) lack of clear authority to take action?

or;

is there some other reason why this action can not be executed today? If Yes, please explain.

QUESTION #3: Are there any ongoing, planned or contemplated initiatives or programs designed to resolve any of the problems which prevent you from executing this action at the present time? If there are, please summarize for each problem area.

QUESTION #4: Have the costs of these initiatives or programs been:

- a) identified and included in your (or someone else's) command operating budget? Yes or No? If yes, briefly summarize status.
- b) identified and included in your (or someone else's) command/agency Program Analysis Resource Review (PARR) (i.e., POM input)? Yes or No? If yes, briefly summarize status.
- c) approved for inclusion in your (or someone else's) command/agency POM? Yes or No? If "Yes", what priority has it been assigned?

QUESTION #5: How long will it be before these initiatives can be expected to produce the desired results? In answering this question, please restate the problem and provide your best estimate of the year and quarter when the problem should be solved (example: Problem:.....; Fix:....., 4th Qtr, 1991).

QUESTION #6: If the Army does not currently possess the capability to execute the action described in decision point _____; and there are no current or planned initiatives to redress the problems noted earlier, what corrective actions or steps would have to be taken in order to develop the capability to execute this action? In other words, in your opinion, what does the Army need to do to solve the problems identified in answering question #2? Please list only the basic or fundamental corrective action(s) or step(s) required. Remember: ESC is interested in obtaining basic macro-level input, not micro-level input. Your answers should be brief and to the point.

QUESTION #7: What is your best estimate of the level of effort that would be required (in terms of man-months and dollars) to implement these corrective actions?

LAST PAGE OF ANNEX B



MOBNET IMPLEMENTATION PLAN (IMPLAN)

STUDY
GIST

CEESC-R-90-12

PRINCIPAL FINDINGS:

- The Army should implement MOBNET (Mobilization Network) as its method of determining materiel requirements for mobilization.
- The Army should establish a MOBNET review council to advise and assist in monitoring the implementation process.

MAIN ASSUMPTIONS:

- Industrial preparedness planning is a two-part equation which balances requirements against industry's capacity to produce. A system or process which will answer the requirements side of the equation will greatly benefit industrial preparedness planning.
- The Army needs a process which is capable of measuring requirements for any level of mobilization up to total mobilization.
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PRINCIPAL LIMITATION: Few planning systems consider either expanding the current size of the Army or providing assistance to non-U.S. claimants for support.

SCOPE OF THE STUDY: To identify the costs and the time required to implement the various support systems and data bases which make up the MOBNET process.

STUDY OBJECTIVE: The primary objective was to outline a method for implementing the MOBNET planning process and institutionalizing it within the Army.

BASIC APPROACH: Coordinating meetings were held with the major commands responsible for segments of the MOBNET process. ESC solicited suggestions for improving the process and reinforced acceptance for the system concept. Questionnaires solicited cost data from the system proponents.

REASON FOR PERFORMING THE STUDY: The Deputy Chief of Staff for Operations and Plans requested that ESC develop cost data for implementing the MOBNET planning concept. The Directorate for Operations Readiness and Mobilization requested that ESC also develop a plan for implementing the MOBNET system.

STUDY IMPACT: The study resulted in a systematic plan for implementing the MOBNET process and a macro-level estimate of its costs.

PERFORMING ORGANIZATION AND PRINCIPAL AUTHORS: The U.S. Army Engineer Studies Center performed the study. The principal author was Mr. Ron Bearse.

STUDY SPONSOR: The Operations Readiness and Mobilization Directorate, Office of the Deputy Chief of Staff for Operations and Plans.

STUDY REPORTS AVAILABLE THROUGH DTIC: *MOBNET Implementation Plan (IMPLAN)*

DTIC ACCESSION NUMBER OF FINAL REPORT: DA334764

COMMENTS AND SUGGESTIONS MAY BE SENT TO:

Commander, U.S. Army Engineer Studies Center
Casey Building #2594
Ft Belvoir, VA 22060-5583
POC: Mr. Terry Atkinson
Commercial: (703) 355-2287
AUTOVON: 345-2287

START AND COMPLETION DATES OF STUDY:

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Completion Date: August 1990



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STUDY REPORTS AVAILABLE THROUGH DTIC: *MOBNET Implementation Plan (IMPLAN)*

DTIC ACCESSION NUMBER OF FINAL REPORT: DA334764

COMMENTS AND SUGGESTIONS MAY BE SENT TO:

Commander, U.S. Army Engineer Studies Center
Casey Building #2594
Ft Belvoir, VA 22060-5583
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Commercial: (703) 355-2287
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START AND COMPLETION DATES OF STUDY:

Starting Date: November 1989
Completion Date: August 1990



MOBNET IMPLEMENTATION PLAN (IMPLAN)

STUDY
GIST

CEESC-R-90-12

PRINCIPAL FINDINGS:

- The Army should implement MOBNET (Mobilization Network) as its method of determining materiel requirements for mobilization.
- The Army should establish a MOBNET review council to advise and assist in monitoring the implementation process.

MAIN ASSUMPTIONS:

- Industrial preparedness planning is a two-part equation which balances requirements against industry's capacity to produce. A system or process which will answer the requirements side of the equation will greatly benefit industrial preparedness planning.
- The Army needs a process which is capable of measuring requirements for any level of mobilization up to total mobilization.
- The process must be generic enough that future changes in the Army's force structure, doctrine, and strategic objectives can be accounted for without massive redesign efforts. Industrial preparedness planning is a two-part equation which balances requirements against industry's capacity to produce. A system or process which will answer the requirements side of the equation will greatly benefit industrial preparedness planning.
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PRINCIPAL LIMITATION: Few planning systems consider either expanding the current size of the Army or providing assistance to non-U.S. claimants for support.

SCOPE OF THE STUDY: To identify the costs and the time required to implement the various support systems and data bases which make up the MOBNET process.

STUDY OBJECTIVE: The primary objective was to outline a method for implementing the MOBNET planning process and institutionalizing it within the Army.

BASIC APPROACH: Coordinating meetings were held with the major commands responsible for segments of the MOBNET process. ESC solicited suggestions for improving the process and reinforced acceptance for the system concept. Questionnaires solicited cost data from the system proponents.

REASON FOR PERFORMING THE STUDY: The Deputy Chief of Staff for Operations and Plans requested that ESC develop cost data for implementing the MOBNET planning concept. The Directorate for Operations Readiness and Mobilization requested that ESC also develop a plan for implementing the MOBNET system.

STUDY IMPACT: The study resulted in a systematic plan for implementing the MOBNET process and a macro-level estimate of its costs.

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