

**The Public-Private Dilemma:
A Strategic Improvement Agenda for
U.S. Department of Defense Depot Maintenance**

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(ABSTRACT)

Since the end of the Cold War, the Department of Defense (DoD) has been challenged to formulate and make strategic decisions, especially in areas related to the Department's "business operations." Strategic decisions are those that focus on setting long-term organizational direction. This has proven difficult because a rather simplistic (and somewhat comforting) DoD organizational orientation toward an "either/or" or "us versus them" decision-making mindset that was once ubiquitous and appropriate, given the nature of political and military threats, has been hard to shake.

This study reviews a particular manifestation of this dilemma: the decision-making arrangements associated with the provision of military depot maintenance services. An historical review of this topic shows a mixture of problems, progress, and promise. A strategic decision-making approach that draws upon Sabatier and Jenkins-Smith's Advocacy Coalition Framework (ACF) is proposed to improve the situation. It addresses key problems identified in the analysis and rests upon an approach to strategic decision making that is politically rational in nature. This approach, called a Strategic Improvement Agenda, is offered as a potential foil to the "us versus them" orientation.

Dedication

To Lynne for your love and support, Will for your wit, Kate for your kindness,
and Bill and Bu for your concern.

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I thank Philip Kronenberg for his mentorship throughout my program of study and on this dissertation effort. His approach to guiding my energy, given the exigencies of a busy and fulfilling life, was wise, effective, and absolutely essential. I am grateful for his counsel and for helping me see that this work is, indeed, a part of my life.

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Chapter One: Introduction

Overview

This study examines particular difficulties associated with the provision of United States (U.S.) military depot maintenance services that derive from the policy decision to rely on government or private-sector institutions to provide those services. An analysis is conducted to discern patterns in institutional history and identify coalitions that have attempted to shape the current decision framework. Based upon this review, a range of problems are identified and suggestions are offered to improve the current decision framework.

The primary issues of concern are (1) how U.S. military makes choices about public-versus-private roles for the provision of these depot maintenance services and (2) in what ways a number of the troublesome consequences of the existing decision-making framework might be addressed.

The issue of depot maintenance provision is frequently described as a “make-or-buy” choice and is particularly contentious in the area of national defense, where notions of public service, reverence, and hierarchical authority have historically superseded incentives of the marketplace. The contentiousness surrounding this issue is well documented. Several authors, including Clay-Mendez of the Congressional Budget Office, have noted that direct comparisons between the costs and capabilities of public depot maintenance activities and private repair firms are difficult and contribute to comparative complexities.¹

The study first explores prominent aspects of the current decision-making setting for the subject matter, then chronicles and assesses recent history to add dimensions to that

¹Deborah Clay-Mendez, *Public and Private Roles in Maintaining Military Equipment at the Depot Level* (Washington, D.C.: Congressional Budget Office, 1995), 1.

understanding in an attempt to improve it. Figure 1 provides a high-level overview of the study and identifies main topical areas within specific chapters. The Research Approach section that follows explains the study's contents and theoretical and empirical facets in greater detail.

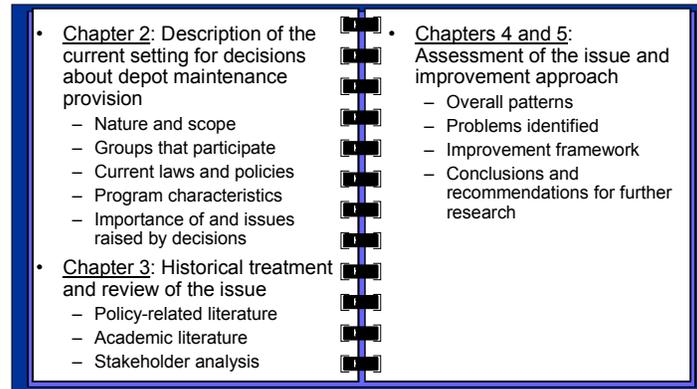


Figure 1. Overview of the Study

Research Approach

A subjective integration of specific influences informs the structure of this study. My interest in this topic began in the late 1980s as a civil servant in the Naval Supply Systems Command. There, I developed and implemented information systems to improve equipment and parts management among various military supply and maintenance organizations. Through this experience, I developed great respect for our men and women in uniform, as well as the skilled civil servants and contractor personnel who work to help ensure that the equipment our soldiers operate is capable of working when it is needed.

In this sense, I have a guiding philosophy that defense organizations are instruments to serve a basic societal need, which is the protection of our national interests. Therefore, I assess some organizational activities and decisions in terms of standards of efficiency and effectiveness in their use of resources and other inputs. These functionalist and positivist orientations become evident as I offer certain causal explanations in this study.

But I have also developed a more informed sense of the dynamic technical and political issues that surround decisions about military depot maintenance provision by working on several major studies of the subject, primarily at the national policy level. For example, from 1999 to 2001, I coauthored an in-depth analysis sponsored by the Office of the Secretary of Defense that offered several alternatives for improved depot maintenance management for the U.S. military.² I also recently wrote an article for an International Society of Logistics publication that evaluated the underlying rationale for depot maintenance requirements in light of contemporary commercial depot maintenance capabilities.³

This work afforded me the opportunity to better understand the subject and taught me that the “materiel” aspects of military depot maintenance can make it a deceiving topic. People tend to want to decompose it and view it in a rather mechanical fashion, which, I have observed, minimizes or discounts the complex interaction of stakeholders that inform and influence decisions about its provision. Depot maintenance done in support of the U.S. military is, in fact, accomplished by people who are represented by some of the most powerful political constituencies in the United States. Decisions about it are shaped by a large set of national laws, policies, and organizations. Therefore, in this manuscript, the topic is treated through a research approach that seeks to understand and embrace these stakeholder dimensions, as well as the organizational dynamics they sustain, as primary units of analysis that have heretofore been largely ignored in the institutional and academic treatment of this topic.

The research approach integrates several types of field work and analysis techniques characteristic of sound exploratory research. A well-tested policy-analytical framework is used to

² PricewaterhouseCoopers (PwC) and Logistics Management Institute (LMI), *DOD Core Depot Maintenance Policy/Methodology Report* (Fairfax, VA, 2001).

³ Nicholas J. Avdellas, “An Improved Core Methodology,” *Logistics Spectrum* 36, no. 2 (June 2002): 4–9.

help channel and organize observations from field work, extensive document research, and elite interview results. The theoretical framework employed⁴ also suggests several key variables, the analysis of which supports viable courses of action that could be taken to address issues within the overall unit of analysis that is observed (the policy subsystem for depot maintenance provision choices).

Overall, a four-phase empirical research procedure is followed, based on the work of Jerome Kirk and Marc Miller:⁵ These phases are explained below and are further described in the following paragraphs. The terms *Invention*, *Discovery*, *Interpretation*, and *Explanation* are offered by Kirk and Miller to directly correspond to problem solving activities associated with systematic field research.

- ***Invention***—in which I developed the overall research design and goals of the study and produced a working study plan. This phase also included significant background research on the topic, initial informal contact with people who would be information sources as well as “sounding boards” for my research, and exploration of possible theoretical frameworks that could help me account more systematically for the findings of my research as well as help justify a notional framework for improvement. This plan was updated periodically, but was generally followed throughout the study.
- ***Discovery***—in which I collected data, documentation, and insights according to the study plan. This phase produced information and perspectives that constitute much of the content of Chapters Two and Three of the study. During this phase, I was sensitive to

⁴ The framework to which I refer is contained in Paul A. Sabatier and Hank Jenkins-Smith (eds.) *Policy Change and Learning: An Advocacy Coalition Approach*. (Boulder, CO: Westview Press. 1993). and Paul A. Sabatier. (ed.) *Theories of the Policy Process*. (Boulder, CO: Westview Press 1999).

⁵ Jerome Kirk and Marc L. Miller, *Reliability and Validity in Qualitative Research* (Newbury Park, CA: Sage Publications, 1986).

issues of validity and reliability in qualitative research and addressed each directly. In the case of validity, I made a concerted effort to undertake several segments of fieldwork for which I prepared greatly, which I will describe in more detail below. Each attempt built upon previous research and observations and incrementally brought me closer to core elements of the subject matter. In terms of reliability, I took detailed notes of my findings and observations. The results of these notes are reflected in the manuscript and its appendices.

- ***Interpretation***—in which I evaluated and synthesized the results of the Discovery Phase. This phase produced tentative conclusions and improvement approaches for the policy framework for decisions about depot maintenance provision and involved several cycles of analysis. I will describe elements of this phase further below.
- ***Explanation***—in which I communicated and presented the results of my discovery and interpretation phases in a refined improvement approach and made more formal observations and suggestions for further research. The results of this phase are contained in Chapters Four and Five.

During the later parts of the Interpretation phase and into the Explanation phase of the project, I conducted elite interviews to gather insights and reactions to the tentative observations I had postulated from the research to that stage. During a three-month time frame between September and November 2004, several individuals who have specialized or managerial knowledge of depot maintenance provision were consulted and asked to comment on specific subjects. The topics they were asked to react to include my interpretation of the history and current policy setting for decisions about depot maintenance provision, as well as the framework I had suggested for improvements to it.

Specifically, I conducted sixteen elite interviews. In effect, these interviews served as a comprehensive check of my working hypotheses (which was a particular sense of the depot maintenance decision-making setting, its historical patterns and problems, and an improvement framework designed to address the problems I had identified). Results from the interviews were analyzed for key themes and issue areas and subsequently incorporated, as appropriate, in the final description of patterns, problems, solutions, and conclusions that appears in Chapters Four and Five of the study. A summary of the elite interview process and the questions I posed to each respondent are included as Appendix E of this document.

In the interview process, I used a semi structured face-to-face interview format. I adapted a specific set of questions to particular responses and information needs of individual respondents. Each individual, however, was asked initially to prepare to respond to the same set of questions and draft documents. This style of interviewing afforded freedom to explore the multidimensional depot maintenance topic, yet it addressed issues of reliability and validity, which I did through in-depth note keeping and frequent checks of interpretation with the individuals with which I spoke. Interviews were conducted with individuals from each major stakeholder group discussed in the study. I interviewed the following individuals on a not-for-attribution basis:

- Two legislative directors from several staff offices of members of Congress involved with depot maintenance provision legislation
- A Director of Plans and Programs at a U.S. Air Force Air Logistics Center
- A former Under Secretary of Defense (Acquisition, Logistics, and Technology)
- One current and one former Naval Aviation Depot Commander
- A former Deputy Under Secretary of Defense (Logistics)

- A former Assistant Commandant of the U.S. Marine Corps
- A Vice President of Government Policy for a major private-sector depot maintenance lobbying organization
- Two current and former policy analysts in the Office of the Secretary of Defense
- A recent Vice Chief of Naval Operations
- A previous Army Assistant Deputy Chief of Staff
- Four experienced analysts from both private- and public-sector research organizations with historical interest in the subject matter

The elite interviews provided arguably the most informative and exciting part of my research. I gathered varied viewpoints through fascinating exchanges with very interesting individuals.

In order to put the formal elite interviews in full context and relate the methodological and theoretical components of my complete research effort to the chapters of this manuscript and the phases of my research design, I offer the following detailed description of my research approach. The process I will describe is reflected in the chapters that follow.

As a field researcher, I did not approach this study with precisely defined assumptions to be tested. Rather, I developed a set of working hypotheses over the course of my observations and continually checked them with both experts in the field as well as with theoretical principles that are established in the public policy and decision-making literature.

The contents of Chapter Two of the manuscript reflect field research in and among various offices and libraries that yielded comprehensive information on depot maintenance provision for the U.S. military. The goal of this part of my research was to immerse myself in the subject matter, learn about its key players, and describe the overall current and formal policy

environment for decision-making in this area of defense management. In this phase of my research, I did a significant amount of work in the field, including the Pentagon and other government offices, in order to collect information and check my descriptions and accounts of facts and formal organizational relationships that support decisions about depot maintenance provision.

Chapter Two, then, is essentially a chronicle of organizational positions and roles, which describes the governmental routines relevant to depot maintenance sourcing by central policy players. The chapter also offers some predominant issues raised by the descriptive review. The results of this portion of my research also are contained in several appendices that outline the laws and policies that guide decisions about depot maintenance provision for the U.S. military.

This portion of the project could serve as a comprehensive formal policy primer for students and practitioners that are interested in the topic. In this part of the research, contact with informants was informal. In this phase, experts in depot maintenance policy were relied upon to check facts and verify my representation of the formal and current policy decision-making environment.

After I described the policy environment for depot maintenance provision decision making and delineated the formal laws, policies, and stakeholders that are currently involved in its provision (in Chapter Two) the questions I asked were “What had shaped and formed this official decision-making framework and on what basis and how is it performing?” Chapter Three, then, represents a perspective on how the depot maintenance provision decision framework has been treated, and in fact evolved, from 1990 to the present. Here, I undertook two research activities (each part of Kirk and Miller’s Discovery Phase).

The first was a comprehensive literature review of both the institutional and academic schools of thought that had influenced the development of the current framework for the depot maintenance provision decisions. I reviewed numerous articles and books and also summarized them as they related to the depot maintenance provision topic. Many of the documents and books I summarized became part of my research agenda based upon the environmental and descriptive analysis that is reflected in the Chapter Two descriptive analysis previously described.

I employed thematic analysis techniques to derive overall relevance to the depot maintenance provision topic, which is reflected in the summaries I provide of each type of literature that I discuss in Chapter Three. I also checked the relevance and importance I attributed to several institutional documents by cross-checking my sense of the importance of the documents with several experts in the field.

This resultant literature review is contained in the first part of Chapter Three. It was a fruitful endeavor and extremely important as an extension of my initial descriptive analysis, but it was ultimately frustrating. The majority of the available literature on the topic, in general, did not provide a full or well integrated sense of the subject matter. I found no single area of academic literature that provided an adequate basis for examining and improving the depot maintenance provision decision framework in the public sector. As the literature review reflects, I did summarize my sense of how each school contributes to important elements of the understanding the depot maintenance provision choice, but I realized I needed to go back into the field. The results of my second trip into the field are documented in the second part of Chapter Three, “Historical Stakeholder Analysis.”

This time, before returning to the field, I took on and further explored the interconnectedness I had observed among the stakeholders in my descriptive work as they related

to the depot maintenance provision choice. I was also sensitive to the economic and social dimensions that I examined that bear upon the issue. I consequently performed several additional literature reviews and found the literature on policy network models to be particularly appropriate and useful because these approaches primarily derive from political pluralist methods of analysis. I was able to employ these theoretical approaches as a way to channel the evaluation of the history I was interested in and also to help describe how policy decisions could result from conflict, bargaining, and coalition forming among large numbers of groups that are organized to advance particular interests common to their members. Unlike many of the starkly rational models that comprised much of my initial literature review, I began to see that these network models could help explain policy change and decision-making as a function of the diverse actors or groups found within a policymaking system and, in many cases, may be able to illustrate the complexities of the system that supports the depot maintenance decision-making framework.

Therefore, I conducted a second, rather concentrated, review of the policy network literature within the larger school of public policy process and decision-making body of work.⁶ In general, this literature highlights, as a key unit of analysis, the policy community or subsystem in decision-making. It also attributes a certain set of causal and principled (analytic and normative) beliefs to various subsystem attributes, a relatively common knowledge base for the subsystem, and a common policy enterprise. This literature focuses analytical attention on

⁶ This included a review of several books in this area, including, Fernando Reimer's and Noel McGinn's *Informed Dialogue: Using Research to Shape Education Policy Around the World* (Connecticut and London: Praeger, 1997), Diane Stone's *Capturing the Political Imagination: Think Tanks and the Policy Process* (London: Frank Cass & Company, 1996), and John Kingdon's *Agendas, Alternatives and Public Policies* (Boston Toronto: Little Brown & Company, 1984).

networks of policy actors from both inside and outside of government, which, it contends, is highly integrated with policy-making and associated decision processes.

After this second literature review, I drew primarily upon several key premises from Sabatier and Jenkins-Smith's Advocacy Coalition Framework (ACF)⁷ to help me approach my field work systematically as I explored the evolution of the decision-making framework for depot maintenance provision choices. Various aspects of the ACF framework have been applied to over 35 examinations of policy-and decision-making. The framework is also widely viewed as one of the two most promising theories of the policy decision-making process—the other being institutional rational choice as represented by Ostrom.⁸

Essentially, as Sabatier and Jenkins-Smith have done in various research projects, my aim was to delve into the depot maintenance provision decision-making framework by exploring the topic as an evolution of stakeholder positions that entail belief systems and advocacy coalitions—and to examine the positions of various policy actors, aspects of policy coordination, policy actor types, and various policy venues as independent variables that help shed light on these coalitions and the nature of the decision-making process they had constructed over time.

Using the stakeholders I had identified in Chapter 2 as the general categories of policy actors types in the depot maintenance policy subsystem, I began my additional round of fieldwork and document retrieval and analysis to provide a policy network and coalitional perspective on the evolution of the depot maintenance provision decision-making framework.

⁷ Paul Sabatier and Hank Jenkins-Smith began developing the ACF in the mid-1980s, building on multiple streams and interest group politics frameworks. In collaboration with other researchers, the authors began testing and further developing the ACF through the 1990s. The ACF is intended to explain policy change over periods of a decade or more. The ACF proposes that public policy results from competition among coalitions of policy advocates, with each coalition united by a shared set of policy beliefs. The framework has been applied extensively in policy research projects.

⁸ Elinor Ostrom, *Governing the Commons: The Evolution of Institutions for Collective Action (Political Economy of Institutions and Decisions)* (London: Cambridge University Press, 1990).

This analysis tentatively culminated in Table 12 of the manuscript, which I termed a Problem Representation by Key Policy Stakeholders in relation to the depot maintenance provision choice. This contains the substantive policy issue(s) attributed to key stakeholders that I derived from the fourteen year historical review that I assembled and present in the chapter. I checked the validity of the contents of this table, and my descriptions that led to its development, through the 16 semi-structured interviews that I conducted with key informants in the depot maintenance policy subsystem (mentioned above). An assessment of this problem representation table was the first formal input I requested from what I refer to as this group of elite informants.

In Chapter Four, I move to an overall assessment of the depot maintenance provision framework and offer a proposal for improvement, which I call the Strategic Improvement Agenda (SIA). Throughout Chapter Four, I continue to use the ACF as a wide-ranging theoretical guide to identify key problems and issues associated with the current decision-making framework as well as a source to offer prospective advocacy to improve the performance of depot maintenance decision-making.

I do augment the ACF theoretical framework with additional literatures that lend theoretical credence to my claims and the SIA. An example of such an insight is that management can be seen as a technology or architecture in which the configuration of management systems, policies, and decision-making procedures govern the strategic and operational functioning of an enterprise to achieve its goals and objectives.⁹ This approach is related to supply chain management approaches that emphasize alignment of organizational goals with continuing and customer-focused improvements.¹⁰ This literature is helpful in

⁹ Michael K. Badawy, *Management as a New Technology* (New York: McGraw-Hill, 1993).

¹⁰ Frank Camm, "Strategic Sourcing in the Air Force," in *Strategic Appraisal: United States Air and Space Power in the 21st Century*, eds. Zalmay Khalilzad and Jeremy Shapiro (Santa Monica: RAND, 2002).

connecting the more technical aspects of the depot maintenance provision choice with associated organizational and coalitional dynamics.

A second research school I reference is the field of the New Sciences of Transformation (NST) in application to the policy decision-making process. Of specific importance are discussions of a policy decision phase called *issue transformation*, which suggests a strategic sense of the future and the need to engage stakeholders in a dialogue over the identification and interpretation of policy issues reflecting potential arenas of joint interest among them.¹¹ This body of work describes points of emphasis regarding how to conceive of conditions that are conducive to professional stakeholder forums that can foster involvement that support actual policy and decision-making changes.

Finally, I reference strategic-planning literature, particularly as it relates to methods unique to the public sector. Here, decision-making approaches are described in terms of the capability to accommodate both substantive and political kinds of rationality and produce both desirable and politically acceptable change.¹² Concepts related to the dynamics of strategic change, conflict resolution, and goal attainment and that are part of the proposed strategic framework are also supported by works that address these aspects of that are rooted in much more established research traditions of organizational behavior.^{13, 14}

Also, at two specific points during my work that is described in Chapter Four, I again rely upon input from my pool of 16 elite interviewees. Specifically, the interviewees were asked to comment critically upon (1) my sense of the problems caused by the current overall pattern for

¹¹ Philip S. Kronenberg, "Chaos and Re-Thinking the Public Policy Process," in *Chaos and Society*, Frontiers in Artificial Intelligence and Applications, ed. A. Albert (Amsterdam: IOS Press, 1995).

¹² John Bryson, *Strategic Planning for Public and Nonprofit Organizations: A Guide to Strengthening and Sustaining Organizational Achievement*, rev. ed. (San Francisco: Jossey-Bass Publishers, 1995).

¹³ Richard M. Cyert and James G. March, *A Behavioral Theory of the Firm*, 2d ed. (Cambridge: Blackwell Publishers, 1992).

¹⁴ James G. March and Herbert A. Simon, *Organizations*, 2d ed. (Cambridge: Blackwell Publishers, 1993).

depot maintenance provision (Figure 12 in the manuscript) and (2) key aspects of my high-level improvement implementation plan (which is Table 13 in the manuscript). Chapter Four also includes a discussion of stakeholder considerations in relation to my SIA as well as several issues related to it.

In Chapter Five of the manuscript, I offer a summary of the study, conclusions from my research and recommendations for further study.

Contribution to Literature

Several areas of literature are surveyed as a part of this study. The reviewed academic literature bears directly on the depot maintenance provision decision or is mentioned in associated policy-related documents that have also been reviewed as part of this research. In addition, there are considerable amounts of official mission, policy, and legal documents; institutional and research studies; and related Department of Defense publications that address depot maintenance provision for the U.S. military—many of which have been reviewed in this research. This review creates a baseline from which depot maintenance provision and several problems associated with it are more fully understood and addressed.

There is also an accompanying literature review that was undertaken in the development of the project's research approach. This is used to synthesize and understand the information sources just described. I have outlined the results of that review in the previous Research Approach section of the study.

As previously mentioned, I found no existing single stream of literature that provides an adequate basis for examining and improving the depot-level maintenance provision decision in its unique public-sector decision-making structure. The literature does provide a satisfactory characterization of outsourcing or privatization decisions and some studies examine the

behaviors associated with particular decision situations, but these studies tend to be narrowly focused and ultimately provide little help as a source of understanding the complexity of the depot maintenance choice for the military or for informing improvements of it.

In general, the literature and documents tend to assume that the Office of the Secretary of Defense (OSD) and the Military Services will organize themselves in some collective fashion to address a very difficult and meandering set of issues that depot maintenance provision brings to bear. My principal contribution is to offer a way, based upon a sound theoretical grounding in the policy network literature, in which these issues might be addressed.

In this regard, I view my chief contribution to the research literature as an exploratory application of the ACF framework with a resulting articulation of an approach that can increase our understanding and potentially address the problematic consequences of the current decision-making framework for depot maintenance provision for the U.S. military. The new knowledge that I contribute is ultimately based upon a political and interorganizational analysis of the unique depot maintenance decision-making setting.

The approach I employ has not previously been applied to this issue. It is hoped that the results of this work can contribute directly to current institutional discussions on the depot maintenance provision topic. In addition, the study could add to improved theoretical grounding of the ACF, particularly in the areas of articulating conditions that are conducive to successful professional and stakeholder forums that support improved policy subsystem decision-making, an area that, according to its authors, is in need of further development.¹⁵

¹⁵ This topic is mentioned on page 152 as a Direction for Further Research in Sabatier's (ed.) *Theories of the Policy Process*, 1999.

Limitations of the Study

Due to the limits of the faculties of a single researcher, as well as the complexity of the subject matter addressed in this research, there are weaknesses in this study. While the reader will undoubtedly identify additional limitations, issues of objectivity and the scope of my unit of analysis and recommendations are, in my judgment, fair concerns.

Although the study follows a disciplined qualitative research approach, it was not possible to recognize and/or correct for all sources of potential bias. This was especially difficult because the observations and conclusions offered reflect more of a chronicle of my *interaction* with a complex and dynamic policy subsystem than a report of “studied objects.” As I have discussed in the Research Approach section above, this is an issue of objectivity which I worked to address through following a repeatable qualitative research process and with numerous checks of my evolution of findings. In the final analysis, what is offered is a perspective on the depot maintenance management policy subsystem with demonstrable checks for reliability and validity throughout the research process. This, however, does not suggest perfect objectivity in terms of the observations or recommendations that are offered.

In terms of the scope of my unit of analysis, the reader who is familiar with the subject matter could fairly suggest that the scope of my findings, and the level within the DoD organization at which I propose my improvement agenda, are at too low a level within the DoD management structure to be effective. This is a fair concern. However, the level at which I collected data and insights was focused upon depot maintenance management and I observed that an enterprise level view for depot maintenance management, while perhaps suboptimum for overall DoD logistics management, is worthy of consideration. I also believe that the theoretical grounding for the improvement approach that I offer is sound and could certainly be translated to a higher organizational level within the DoD for implementation with minor modification.

Chapter Two: U.S. Military Depot Maintenance and Its Provision

This chapter provides an overview of depot maintenance in the U.S. military setting. Its objective is to orient the reader to the topic and to provide a current “lay of the land” in preparation for a more in-depth analysis of how decisions related to depot maintenance provision have evolved and could be improved. The chapter also reviews the laws, policies, stakeholders, and institutional roles and arrangements that influence depot maintenance provision decisions. Finally, the chapter suggests several important issues related to the choice of who should provide depot maintenance for the military.

The Role of Depot Maintenance in the DoD Logistics System

Depot maintenance is a key part of the U.S. military’s vast logistics system. It is a service routinely applied to more than 100,000 ground combat vehicles, 15,000 aircraft and helicopters, 320 ships, and 1,000 strategic missiles. As a general analogy, depot maintenance entails work on these types of weapon systems that one might associate with major repairs or transmission work on a personal automobile.

Depot maintenance essentially keeps these multipart systems and the components that comprise them in operating condition through application of “complete” repair capability. Major modifications done at maintenance depots keep weapon systems in action, as well as broaden the service they can provide the military.

The basic rationale that supports depot maintenance services is that the military cannot afford to buy new equipment each time that equipment becomes worn out or broken down. Depot maintenance is the reasonable alternative. We would not purchase a new automobile because our old one needed a brake replacement or a set of shock absorbers. In fact, we may

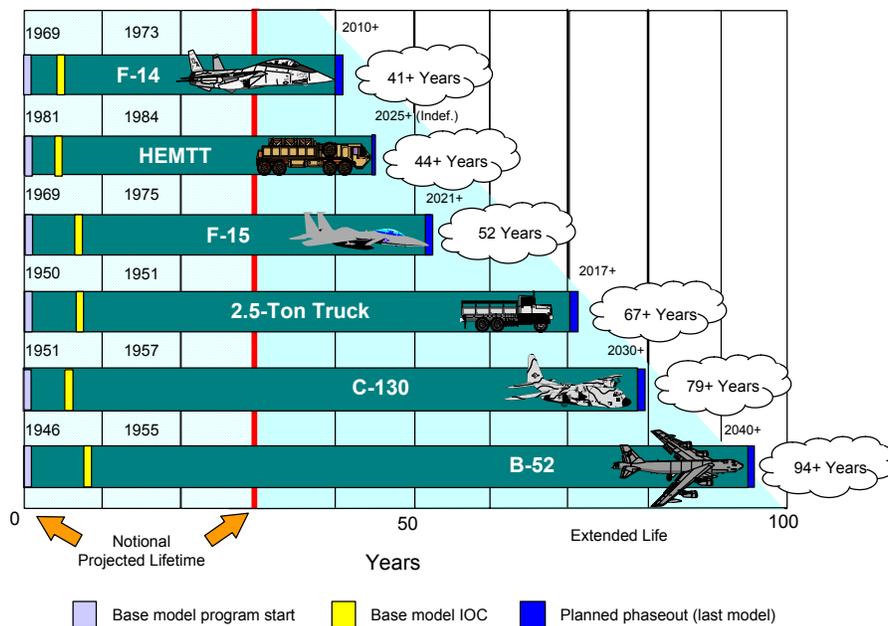
even consider a new or rebuilt transmission to keep an older vehicle in working condition. Considering the useful life of the auto and our expected return on investment for expensive maintenance work, we choose to have the repair done because it is cost-effective and sensible to do so. Likewise, depot maintenance on multimillion-dollar systems is a cost-effective and realistic way to keep them operational.

For example, the C-5 Galaxy heavy-cargo transport plane provides support for the movement of military combat and support forces. The U.S. Air Force took delivery of the first C-5 in 1969. The plane has since been repaired and retrofitted through numerous scheduled depot maintenance visits, including installation of a new wing section and installation of upgraded avionics and navigation systems. The plane continues to provide good usage. During operations Desert Shield and Desert Storm, for example, the C-5 and other Air Force transport aircraft airlifted approximately a half-million passengers and more than 577,000 tons of cargo. This included fifteen air-transportable hospitals, more than 5,000 medical personnel to run them, and more than 211 tons of mail to and from the men and women in the Middle East—each day.¹⁶

Hundreds of similar examples would illustrate the same notion—that in the military's logistics system, depot maintenance has two essential roles. First, it offers new or enhanced capability and improved reliability to mature systems as they are repaired and upgraded throughout their useful lives. Second, depot maintenance is the military's supply resource for repaired components that constitute parts of larger systems. In this manner, depot maintenance support involves the repair of components and subassemblies that, if not provided, sideline weapon systems and equipment and affect the day-to-day operations of fielded military units.

¹⁶ U.S. Department of Defense, <http://www.fas.org/man/dod-101/sys/ac/c-5.htm> (accessed 9 September 2004).

Having these systems ready for action supports the technological superiority of the United States, which is a central element of U.S. national security strategy and policy. Many of these systems are unique for military application and are also becoming older. While a fifteen- to twenty-year life cycle is often projected for most weapon systems, actual system lifetimes are often significantly longer. At the same time, the life cycle of the technology that is placed on these weapon systems is considerably shorter. This trend generally increases the need for depot maintenance work, in terms of not only overall system upkeep and technology insertion but also component repair and replacement. Figure 2 shows the projected and actual life cycles of some major military weapon systems.



Source: DoD Maintenance, Office of the Secretary of Defense Intern Orientation Briefing, January 2004.

Figure 2. Major Equipment Projected Life Cycles

Depot maintenance provision decisions must be made or updated not only for these types of older systems but also for new weapon systems that are being designed and have not yet

entered production. The dimensions of depot maintenance support are more plainly understood in the context of a thorough definition of depot maintenance.

Definition of Depot Maintenance

In technical terminology, depot maintenance is described in the following way by the U.S. military:

*Depot-level maintenance entails materiel maintenance requiring the major repair, overhaul, or complete rebuilding of weapon systems, end items, parts, assemblies, and subassemblies; manufacture of parts; technical assistance; and testing.*¹⁷

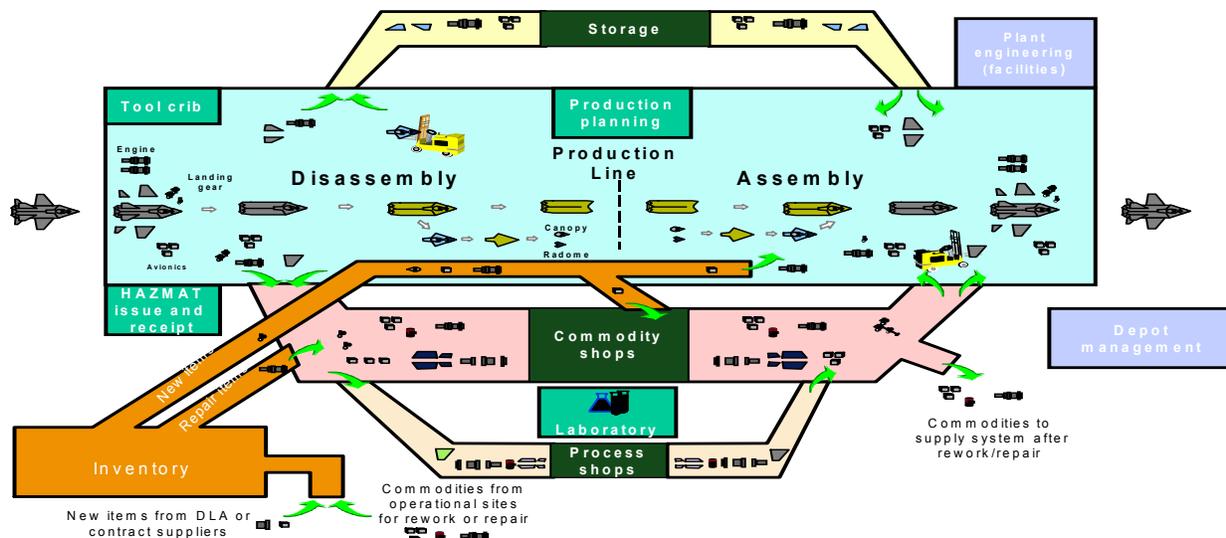
As has been suggested, depot maintenance may also be understood as the *lifeblood* of an extensive, materiel-intensive organization. Military materiel used around the world is routed through public and private repair facilities for maintenance that is performed by skilled artisans and technicians.

These technicians are trained to recognize small changes in things such as vehicle structural integrity, component operating limits, and engineering flaws. They rehabilitate, overhaul, and adapt systems and equipment. This work is accomplished either at a fixed depot repair facility or through the use of field teams that frequently work at or around war-fighting locations.

Figure 3 reflects the substantial scope of depot maintenance as it traces the entrance of an aircraft into the depot repair process through its disassembly, to the routing and repair of all structures and components, and to its reassembly and return to usage. Figure 3 and its description are provided to give an overall sense of the depot maintenance process and its key aspects. Depot field teams, for example, would be working in much more confined areas and with a more

¹⁷ U.S. Department of Defense, <http://www.acq.osd.mil/log/mppr/index.htm> (accessed 10 September 2004).

field teams, for example, would be working in much more confined areas and with a more defined scope of work, and the major overhaul of a ship would entail a dry-dock facility and many more dimensions of repair. However, the following paragraphs provide a clarifying description of the key processes in Figure 3, all of which are typical depot maintenance actions.



Source: DoD Maintenance, Office of the Secretary of Defense, Intern Orientation Briefing, January 2004.

Figure 3. Depot Maintenance Equipment Flow

The most extensive depot maintenance work is performed on major weapon systems (i.e., aircraft, tanks, and ships). This type of work normally involves disassembly; inspection of components, assemblies, and subassemblies; and reassembly. During disassembly, the weapon system is inspected thoroughly for corrosion and structural abnormalities. Corrosion control and structural rehabilitation are crucial activities at depots, given the large number of older weapon systems that have been exposed to corrosive elements and severe operating conditions for extended periods of time. Current military deployments have exacerbated this problem, causing the military to manage corrosion intensively within the depot maintenance process.

After the weapon system is disassembled, work begins on major assembly parts. As Figure 3 shows, engines (or other assemblies) can be removed and routed to various shops within the depot for specific kinds of maintenance actions, and other systems can be shipped to their respective source of repair. At this point, modifications to the components and assemblies can often be made to enhance safety or performance. Depot maintainers replace worn items or those expected to fail before the next scheduled depot overhaul. In addition, major parts are returned from the field for rebuild and return.

An additional stage in depot-level maintenance is the removal and repair of subassemblies and components, such as engine vanes or blades. These items are routed through the various repair shops for the repair or replacement of piece parts, and then they are returned to the weapon system for eventual reinstallation.¹⁸

In summary, military depot maintenance involves overhauling and rebuilding equipment. It uses industrial-type production lines, requires complex skills and test equipment, and is performed principally in fixed facilities by civilian technicians.

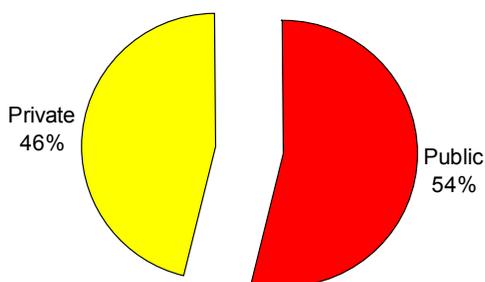
Depot Maintenance Providers

Depot maintenance of military weapon systems and equipment is a significant enterprise. It currently occurs in forty-five states in the United States and is performed by both business and military organizations. There is a wide dispersion in the number of public-sector and contractor depot maintenance activities throughout the United States. While public-sector depot maintenance is concentrated in fewer than 24 locations, contractor-performed depot maintenance is widely dispersed throughout 450 communities. It is also worthy of note that depot maintenance occurs

¹⁸ Ronald D. Baty and others, *Developing a Strategic Plan for DOD Depot Maintenance* (McLean, VA: Logistics Management Institute, 2003).

in 145 of the 362 metropolitan areas in the United States. A metropolitan area, as defined by the U.S. Office of Management and Budget, must have at least one urbanized area of 50,000 or more people.

The split between public- and private-sector maintenance providers has been relatively consistent for the past fifteen years. Figure 4 shows the split of depot maintenance expenditures between private-sector and public-sector depots for fiscal year (FY) 2002.



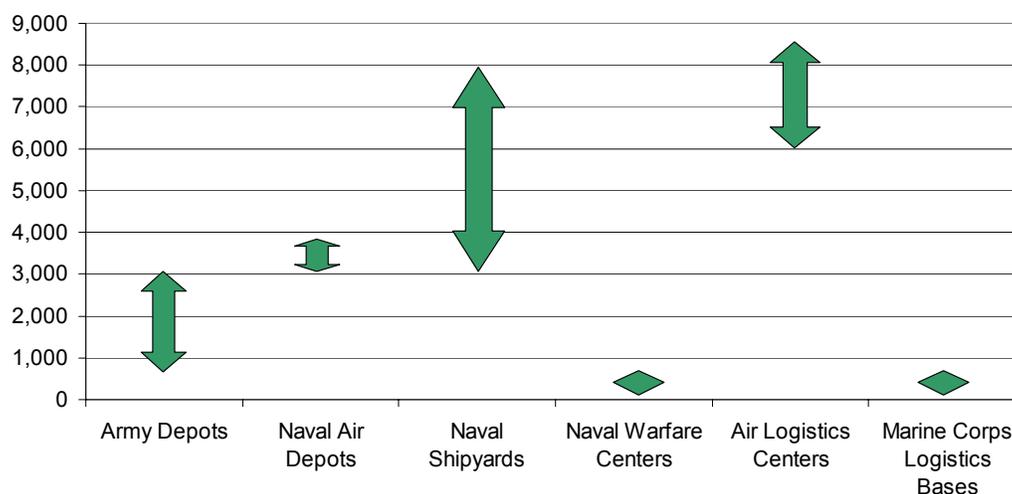
Source: OSD, *Distribution of DoD Depot Maintenance Workloads*, February 2003.

Figure 4. Depot Maintenance Sources of Repair

The public sector's current major depot maintenance capability includes seven aviation depots, four Navy shipyards, four Army combat systems depots, and two Marine Corps maintenance depots. The private sector operates a range of maintenance depots, from large weapon system integrators and prime contractors to smaller, more specialized kinds of depot shops. (A full description of both private- and public-sector depots and their capabilities will be provided in the Depot Maintenance Provision Stakeholders section of this chapter.)

In terms of a profile of these maintenance providers, public-sector maintenance depots differ considerably in size among the Military Services. Figure 5 shows the range in the number of depot maintenance employees for the various public-sector depot maintenance activities. All but four public-sector maintenance depots are located in metropolitan areas; nevertheless,

military installations containing maintenance depots tend to be the biggest employer in their particular communities, regardless of community size. Most public-sector depot maintenance activities have more than 400 personnel. In FY 2003, 69,800 employees accomplished approximately 83 million hours of public-sector depot-level maintenance work.¹⁹



Source: Joint Group on Depot Maintenance data, Fiscal Year 2003.

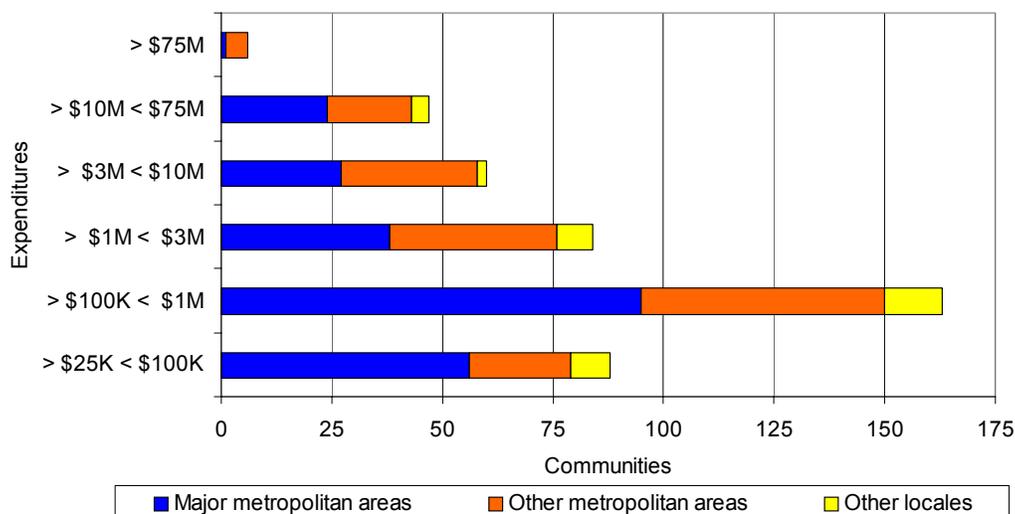
Figure 5. Public-Sector Depot Employment

The contribution of contractor-performed depot maintenance to a local economy also varies widely. Figure 6 portrays the number of communities benefiting from contracted depot maintenance expenditures.²⁰ More than 90 percent of the 450 cities and towns where military contractors perform depot maintenance are within a metropolitan area.²¹ Although contracted depot maintenance is widely dispersed, a little more than half of the contractors' sites are in communities in major metropolitan areas, which are areas that contain more than 1 million people.

¹⁹ U.S. Department of Defense, Joint Group on Depot Maintenance, *Depot Maintenance Business Profile: Fiscal Years 2003–2009* (Washington, D.C.: Joint Depot Maintenance Activities Group, 2004).

²⁰ Maintenance expenditures are used as a unit of measure to characterize the scope of private sector depot maintenance because this is the only statistic that is readily available for this portion of DoD maintenance support.

²¹ Baty, *Developing a Strategic Plan*.



Source: Depot Maintenance Cost System and Logistics Management Institute (LMI) Research.

Notes: K = thousand; M = million.

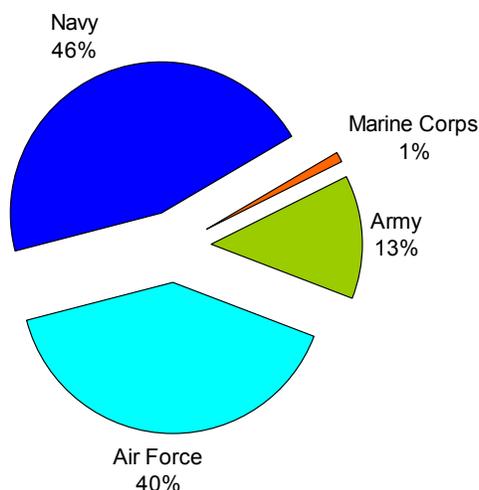
Figure 6. Contract Depot Maintenance Expenditures

The Scope of Depot Maintenance

The military predicts that a little more than 5 percent of projected total defense expenditures during FY 2004 will be for depot-level maintenance and repair. As an enterprise, defense depot maintenance would rank 98th on the *Fortune 500* list of largest U.S. businesses.²² The cost of maintenance services alone is estimated to be about \$20 billion per year. While \$20 billion per year is a very large dollar amount in its own right, when viewed in a cumulative fashion over a period of years, this dollar amount is quite substantial.

The Military Services pay for depot maintenance through acquisition and various operations budgets. The split of depot maintenance expenditures among the Military Services is shown in Figure 7. The Navy spends the greatest proportion on depot maintenance (46 percent of the DoD total), followed closely by the Air Force.

²² Ibid.

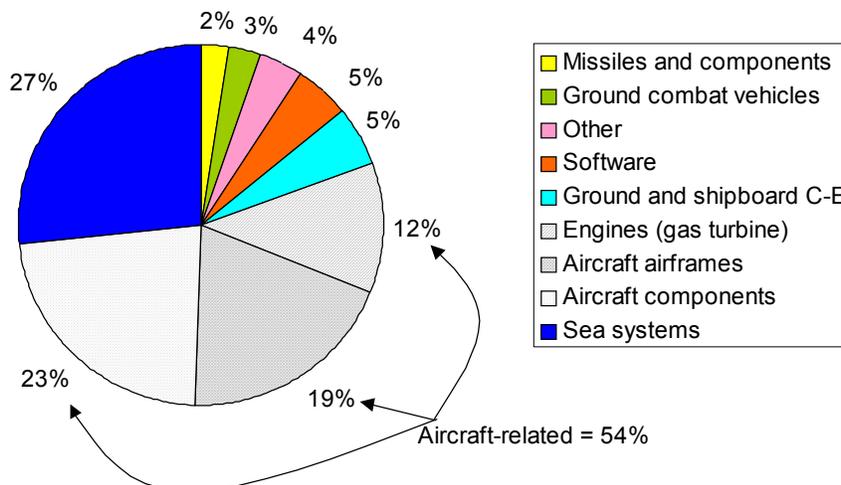


Source: OSD, *Distribution of DoD Depot Maintenance Workloads*, February 2003.

Figure 7. Relative Expenditures by Military Service

The Military Services spend their maintenance budgets on various types of equipment. *The Depot Maintenance Business Profile* produced by the Joint Group on Depot Maintenance²³ aggregates depot maintenance workload into seventeen major commodity groupings. Figure 8 portrays the distribution of DoD's total expenditures on depot maintenance for the large commodity groupings. Ships and their associated systems (i.e., sea systems) constitute the largest group; the three groups related to aircraft make up more than half of all depot maintenance expenditures.

²³ U.S. Department of Defense, *Depot Maintenance Business Profile: Fiscal Years 2003–2009*, 2-5.



Source: OSD, *Distribution of DoD Depot Maintenance Workloads*, February 2003.

Figure 8. Relative Expenditures by Type of Equipment for Public Sector/Contractor

Recent Developments in Depot Maintenance Provision

Several recent developments set the present context of decision making about the provision of depot maintenance. These practices are now presented in general descriptive fashion. (Some of the practices will be further explored in relation to specific stakeholder positions in Chapter Three of this study.)

First, the DoD's Base Realignment and Closure (BRAC) process has had a large effect on depot maintenance provision. After the Cold War, there was intense interest in Congress and amid the general populace to find a "peace dividend" (i.e., substantial reductions in national defense expenditures). DoD's logistics support enterprise (especially depot maintenance) found itself under great pressure to find ways to cut costs and enhance processes. The primary method employed by DoD for reducing infrastructure costs was BRAC.

At the outset, depot maintenance was essentially untouched by the BRAC-related closures. Only two maintenance depots were incorporated in the first BRAC round in 1988. As overall military force structure dropped substantially during the early 1990s, the resulting

decrease in depot maintenance workload led to increases in surplus capacity. Two additional BRAC rounds occurred, and decisions that resulted ultimately led to a 47 percent decrease in the number of major public-sector depot maintenance activities.²⁴ An additional BRAC round is scheduled to announce results in spring 2005 and will likely further reduce the range of depot maintenance providers available in the public sector. After some speculation, this round of military base closings is expected to occur as planned after conferees on the FY 2005 defense authorization bill defeated a House proposal that would have delayed it until 2007. The White House had threatened to veto the bill if the base closing delay was in the final version.²⁵

Second, there has been a shift in the overall source-of-repair choices for depot maintenance over the past fifteen years. Today, 46 percent of depot maintenance expenditures are for workload performed by contractors; at the end of the Cold War, that number was 34 percent.

A significant process that explains this change is a concept called “competitive sourcing.” A central premise of capitalism is that competition among providers of goods or services results in better value and decreased prices. While enthusiasm to apply competitive pressure to federal operations has waxed and waned over the past twenty-five years, the end of the Cold War coincided with significant concern in pursuing competitive sourcing to reduce the costs needed to support the military’s infrastructure. This led DoD to aggressively pursue public-private competitions for depot maintenance during the early 1990s.

²⁴ U.S. General Accounting Office, *Defense Maintenance: Sustaining Readiness Support Capabilities Requires a Comprehensive Plan*. Testimony before the Subcommittee on Military Readiness, Committee on Armed Services, U.S. House of Representatives, 23 March 2001. Statement of David R. Warren, Director, Defense Capabilities and Management, GAO/01-533T (Washington, D.C.: GAO, 2001).

²⁵ John M. Donnelly, “Defense Bill Conferees Agree to Allow Base Closings and Change Tanker Deal,” *Congressional Quarterly Today* (8 October 2004): 1.

The overall effect of these competitions was an increase in the amount of depot maintenance performed by the private sector. However, the competition process has proven cumbersome and has led to arguments about the reliability of the cost data used to determine the outcome of the competitions; as a result, this modus operandi for cost reduction is currently seldom used within the military.²⁶

During the course of the later BRAC rounds, a third approach employed to reduce infrastructure costs was called “privatization-in-place.” Cases were made for in-place privatization for several public-sector maintenance depots. This applied to sites where it was persuasively argued that the workload for which a particular maintenance depot was uniquely configured would continue into the future (though in smaller quantities) and the cost of relocating the equipment and fixtures associated with this workload would be prohibitive. DoD anticipated that contracting with industrial firms to perform this workload would decrease depot maintenance costs. There was also an expectation that the privatized facility would attract additional commercial work. As a result, workload would shift from the public to the private sector; but the location where the depot maintenance was performed would not change.

A fourth trend worthy of note is the rise in what is called “contractor logistics support (CLS).” The past two decades have shown increased interest in CLS within the DoD, primarily for new weapon systems procurements. CLS has been used for many years on smaller and commercial derivative systems, especially those employing new technologies in which a capital investment in a public-sector depot did not make economic sense. Use of the original equipment manufacturer’s (OEM’s) existing support equipment can also be attractive cost avoidance when compared with the expense of establishing a public-sector depot capability.

²⁶ U.S. General Accounting Office, *Navy Maintenance: Assessment of the Public-Private Competition Program for Aviation Maintenance*, GAO/NSIAD-96-30 (Washington, D.C., 1996).

CLS essentially means that the DoD relies upon the OEM for weapon system support throughout the life cycle of the equipment, including depot maintenance services.

This practice has increased interest in depot maintenance on the part of private-sector companies, especially because there has been an overall large reduction in spending for the development and manufacture of new weapon systems. Defense contractors argue that in order to protect a viable defense industrial base, they need the depot maintenance work to offset the decline in weapon system sales.

A concept called “performance-based logistics (PBL)” is a fifth trend that is worthy of note. In September 2001, the DoD’s Quadrennial Defense Review, a major study of military missions and infrastructure, mandated the implementation of PBL for new weapon systems. The most salient difference between PBL and DoD’s traditional weapon system support strategy is the establishment of a single point of direct accountability for a weapon system’s life-cycle product support (this is, in effect, a policy pronouncement for CLS approaches).

Under this policy, program managers may opt for assigning total product support responsibility (including the depot maintenance sourcing decision) to the OEM or system integrator. There is debate about this approach among the depot maintenance policy community. For instance, a recently issued DoD Directive²⁷ states that PBL strategies must comply with statutory requirements concerning the use of public-sector depots (these requirements will be discussed later in this chapter).

²⁷ U.S. Department of Defense, *The Defense Acquisition System: Directive 5000.1* (Washington, D.C., 2003).

Depot Maintenance Provision Stakeholders

Given this background, it is appropriate to identify the key stakeholder groups that are interested in and influence depot maintenance provision. Six key stakeholder groups are crucial to understand; although many of the groups are distinct elements within the U.S. military infrastructure, they tend to advocate distinct perspectives regarding depot maintenance provision. Although broad in scope, the groups have distinct operational norms that warrant aggregation.

The primary groups are:

- The U.S. Congress
- High-level Department of Defense (DoD) policymaking officials
- The Military Services
- Public-Sector Maintenance Activities
- Private-Sector Maintenance Activities
- The Military Operating Commands

There are other groups including labor unions and industry associations who tend to be actors in the larger groups above. These will be discussed in greater detail and further aggregated in Chapter Three of this analysis.

The U.S. Congress

Congress has vigorously addressed depot maintenance and related logistics support issues in recent history and has even organized accordingly. Given the adjustments required to address a post-Cold War era, there have been overall decreases in major weapon systems procurements within the U.S. military. Because a smaller number of “big ticket” items are being bought, many constituencies have focused upon depot maintenance workloads as a source of revenue and jobs. As a consequence, depot maintenance provision is a political issue for many members, who must

address military and business concerns in the context of their own political livelihoods. There is ample evidence of the political nature of the subject in a relatively new section of Title 10 U.S.C. Pertinent sections are discussed later in this chapter.

The role of Congressional guidance in determining depot maintenance workload decisions is significant. Each year DoD is the focus of legislative guidance contained in various appropriation and authorization acts, some of which have been codified as permanent law. Both the House and Senate have identifiable organizations that focus upon depot maintenance issues.

On the House side, there is an informal organization called the House Military Depot and Industrial Facilities Caucus, primarily referred to as the “Depot Caucus.” When asked to comment on this caucus, a member of the U.S. Chamber of Commerce’s task force on privatization said, “There’s not another caucus on Capitol Hill that can more quickly generate a letter with as many lawmaker signatures.”²⁸ The mission statement of the Depot Caucus indicates that it is

*... a group of Members of Congress, who represent military industrial facilities, including aviation depots, shipyards, arsenals, and ammunition plants. The caucus supports the enactment of legislation and the development of DoD maintenance policy that provides high-quality support to our Armed Forces in peace and in war for a reasonable price.*²⁹

The caucus is active, and its members have been quite outspoken. For example, the former cochairman of the caucus, Representative James Hansen (R-UT), in response to what he viewed as questionable White House actions on a particular depot maintenance provision decision, said that “... the Administration acted like a cow that comes up and craps in your living room and then walks away. The rest of us are left to clean up the mess, and no one is happy

²⁸ James Kitfield, “Off Base,” *Government Executive* (June 1998); can be located at <http://www.govexec.com/features/0698s2.htm>.

²⁹ Congress, *Depot Caucus List* (Washington, D.C., 2003).

about it.”³⁰ The caucus has expanded during the current Administration from a caucus that represents only depot maintenance activities to a caucus that also represents all types of military industrial facilities, such as ammunition plants and arsenals. The inclusion of the industrial facilities has approximately doubled the membership of the caucus to its current size of seventy-one members.

The Depot Caucus of the 108th Congress comprises thirty-two Democratic and thirty-nine Republican members who represent maintenance depots and other military industrial facilities. Table 1 reflects the caucus composition, dividing representation between parties and activities. Overall numbers do not total to seventy-one because of Congressmen who represent multiple facilities in their districts.

Table 1. House Depot Caucus Composition

Facilities Represented	Total Number of Members	Democrat	Republican
All Facilities (60 total)	71	32	39
Major Maintenance Depots	32	15	17
Arsenals and Ammunition Plants	27	13	14
Other Facilities	20	3	12

Sixty-four Senators in thirty-two states represent the same military depots and industrial facilities, although its members do not operate as a formal caucus. Thirty Senators represent the twenty major depot maintenance activities, divided into eleven Democrats and nineteen Republicans from fifteen states. Twenty of the forty other industrial facilities are located in states that do not have a maintenance depot. Representation for the arsenals and ammunition plants is thirteen Democrats and twenty-seven Republicans, with representation for other facilities divided into eight Democrats and fourteen Republicans. Sixteen states contain multiple facilities.

³⁰ Kitfield, “Off Base.”

Senators from the New England states, under a verbal agreement initiated by Senator Olympia J. Snowe (R-ME), vote as a block on all issues that affect the Portsmouth Naval Shipyard.

Table 2 shows the division of Senators by party and type of facility. Numbers do not total sixty-four because of Senators who represent multiple facilities in their states.

Table 2. Senate Depot Maintenance Interest

Facilities Represented	Total Number of Senators	Democrat	Republican
All Facilities (60 total)	64	27	37
Major Maintenance Depots	30	11	19
Arsenals and Ammunition Plants	40	13	27
Other Facilities	22	8	14

While it is unrealistic to suggest that these organized groups consistently represent a comprehensive view of Congress's sense of issues related to depot maintenance provision, informal interviews with congressional staffers indicate they are consistently a formidable part of its position taking on central issues.

For instance, in 2002 depots emerged as a centerpiece in a heated U.S. Senate race between incumbent Democrat Max Cleland and challenger Saxby Chambliss of Georgia, who at the time was a driving force in the House Depot Caucus. Cleland and Chambliss, in a battle for votes of thousands of workers at Warner-Robins Air Logistics Center, stage a game of one-upmanship when Cleland proposed language to expand the definition of core logistics work to include certain white-collar engineering jobs and Chambliss put similar but farther-reaching language in the House version of the FY03 National Defense Authorization Act. The redefinition could have shifted jobs from the private sector to the public sector depots and evoked strong opposition from the DoD and contractor services activities. Cleland and Chambliss eventually agreed to remove the language when the legislation reached a House/Senate conference committee.

High-Level DoD Policymaking Officials

The second stakeholder group that influences depot maintenance provision decisions comprises high-level political appointees who advise the President on policy related to the military forces. The Office of the Secretary of Defense (OSD) is the principal staff element of the Secretary of Defense (SECDEF). The SECDEF is the principal advisor to the President, formulates general defense policy and policy related to all matters of direct and primary concern to the Department of Defense (DoD), and is also responsible for the execution of approved policy. OSD includes the immediate offices of the SECDEF, the Deputy Secretary of Defense (DEPSECDEF), and the Under Secretary of Defense (Acquisition, Technology, and Logistics) [USD(AT&L)]. The USD(AT&L) is one of only five Under Secretary positions. The other USDs address policy, personnel and readiness, budget and funding issues, and intelligence.

The USD(AT&L) is the principal staff assistant and advisor to the SECDEF and the DEPSECDEF for all matters relating to the military acquisition system, including production, logistics, maintenance, and installation management. Logistics and maintenance-related issues are delegated by USD(AT&L) to the Deputy Under Secretary of Defense (Logistics and Materiel Readiness), DUSD(L&MR). By law, this office holder serves as a principal staff assistant and advisor to the USD(AT&L), DEPSECDEF, and SECDEF on policy related to logistics and materiel readiness in the Department and is a principal logistics official within the senior management of the DoD. In this capacity, the DUSD(L&MR) has several specific roles, of which two are of key importance. The first is to prescribe policies and procedures for the conduct of logistics, maintenance, materiel readiness, and support in the DoD, including supply, maintenance, and transportation. The second is to advise and assist the USD(AT&L), SECDEF,

and DEPSECDEF in providing guidance to the Secretaries of the Military Departments with respect to logistics, maintenance, materiel readiness, strategic mobility, and support in the DoD.³¹

Actual policy and decision-making guidance for depot maintenance provision is developed and promulgated by a unit reporting to DUSD(L&MR). This office is called the Office of the Assistant Deputy Under Secretary of Defense (Maintenance Policy, Programs, and Resources) [ADUSD(MPP&R)]. Normally referred to within the Department as “MPP&R,” the organization provides functional expertise for maintenance policy and management oversight for all weapon systems, military equipment maintenance programs, and related resources within the military. In this regard, the stated goals of the office are to establish and maintain maintenance policies and programs that are managerially and technologically sound and adequately resourced to maintain the desired levels of weapon systems and military equipment readiness to accomplish the military’s missions.

The office also serves as a principal advisor for policies and procedures for materiel readiness and support of major weapon systems and combat support equipment. Key stated goals include influencing resource allocation decisions, enhancing materiel readiness policies and procedures, providing materiel readiness oversight, and initiating focused studies. Primary official functions of MPP&R also include contributing to Congressional understanding of DoD maintenance requirements and programs, responding to directions and provisions of law affecting weapon systems and military equipment maintenance, and providing direction for their execution by the Military Services and Defense Agencies³²

³¹Congress, Senate, Committee on Governmental Affairs, *U.S. Government Policy and Supporting Positions, Plum Book*, 106th Cong., 2d sess. (2000).

³² U.S. Department of Defense, http://www.acq.osd.mil/log/logistics_materiel_readiness/organizations/mppr/html/aboutmp.html (accessed 15 September 2004).

Finally, the Joint Staff is a high-ranking office that has periodically been involved in depot maintenance issues in recent history. The Chairman of the Joint Chiefs of Staff (JCS) is the principal military advisor to the President and the Secretary of Defense. The Joint Staff assists the Chairman and, subject to the authority, direction, and control of the Chairman, the other members of the Joint Chiefs of Staff and the Vice Chairman in carrying out their responsibilities. The JCS is comprised of the Chairman; the Vice Chairman; the Chief of Staff, U.S. Army; the Chief of Naval Operations; the Chief of Staff, U.S. Air Force; and the Commandant of the Marine Corps. The Joint Staff is comprised of functional areas that advise the Chairman in areas such as manpower and personnel, intelligence, operations, logistics, strategic plans and policy, operational plans, and force structure resources and assessments.

The Military Services

The third stakeholder group concerned with depot maintenance provision comprises the individual Military Services or Departments. These include the Army, Air Force, and Navy (the Marine Corps is considered part of the Department of the Navy). Each Department is headed by a Secretary that reports to the SECDEF. These Service Secretaries head each respective department.

In the case of depot maintenance provision decisions, two functional activities are of interest: those that deal with acquisitions (i.e., the buying of weapon systems and associated support services) and those that address logistics (which involves the support of items, including depot maintenance, that have been put into use and are in the military's inventory and combat systems).

Both functional areas lead depot maintenance sourcing decisions. The acquisition aspect includes various program managers who manage major weapon system acquisitions, such as the

Joint Strike Fighter or the Blackhawk helicopter. These officials make initial source-of-repair decisions for depot maintenance early in the acquisition processes of particular systems. These decisions not only include the choice of who will do the maintenance that is anticipated for such systems but also entail choice about capital investments in depot maintenance facilities that would address anticipated depot maintenance workloads. In making the actual source-of-repair decisions, the program managers within the Services use detailed decision-tree processes that include a number of factors, the three most important being mission essentiality, cost, and risk.

The logistics functions of the Major Commands are charged with the support of weapon systems that are more mature and fielded throughout their organizations—the systems, for example, that are in Afghanistan and Iraq right now. These groups are the materiel managers for the Services' weapon systems. They review and make depot maintenance source-of-repair recommendations in the context of other logistics issues such as materiel distribution and inventory management. These decisions are based upon anticipated and actual equipment failures and the current needs of the operating forces.

The key Military Service organizations that are stakeholders for depot maintenance provision decisions, broken down and described by individual Military Service, are provided in Table 3. The public-sector maintenance depots, the organizations that actually accomplish the maintenance work for the public sector as a result of the decision structure that is being examined in this study, will be described as a separate stakeholder group in the next section of this chapter. However, public-sector depots do officially report, through various arrangements, to these headquarters organizations.

The Chief of Naval Operations (CNO) is included as a distinct stakeholder in Table 3 because of the office's involvement in the evolution of depot maintenance provision policy in the

historical discussion that will appear in Chapter Three of this study. The CNO has played a very active role in shaping the composition of the Navy’s logistics organizations, including its maintenance depots.

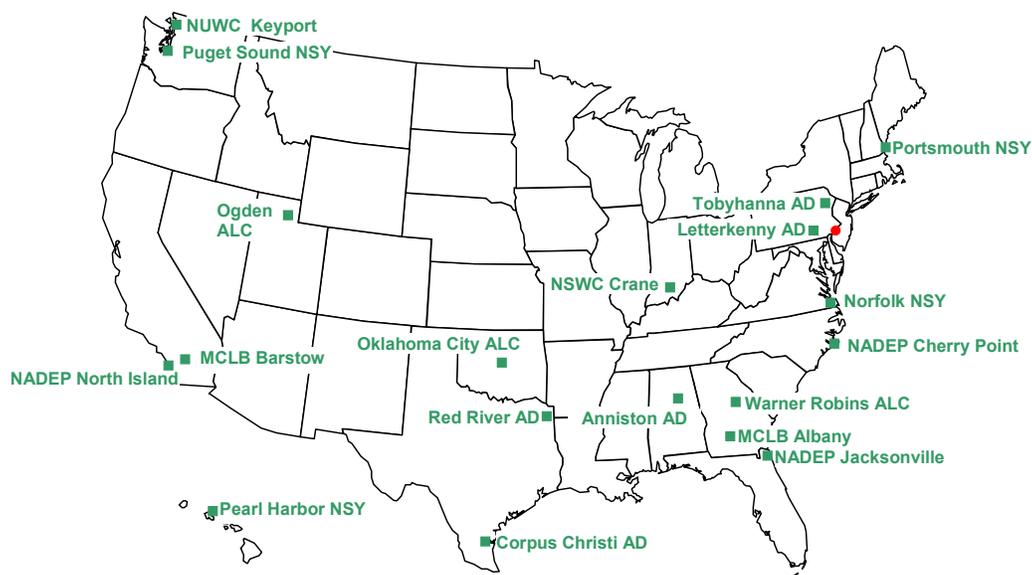
Table 3. Military Service Stakeholders and Depot Maintenance Missions

Military Service Stakeholder	Mission and Relationship to Depot Maintenance Provision
Army Materiel Command	This organization is tasked to develop, support, and sustain the future Army while at the same time supporting and sustaining the current operations. It oversees maintenance depots restore weapon systems. The Command’s overhaul modernization efforts are attempting to upgrade major weapon systems—not just making them like new, but inserting technology to make them better and more reliable.
Air Force Materiel Command	This organization researches, develops, tests, acquires, delivers, and logistically supports every Air Force weapon system. Depot maintenance provision decisions are coordinated by the Air Staff, the Integrated Logistics and Maintenance Office (ILMM), and the Logistics Division within the Command.
Marine Corps Logistics Command	This organization is charged with integrated logistics and supply chain management, including depot maintenance management for the operating forces of the Marine Corps. It runs the Marine Corps logistics bases and coordinates with Headquarters Marine Corps, Installations and Logistics for depot maintenance source-of-repair decisions.
Chief of Naval Operations	The Chief of Naval Operations (CNO) is the senior military officer of the Department of the Navy. The CNO is a four-star admiral and is responsible to the Secretary of the Navy for the Command, utilization of resources, and operating efficiency of the operating forces of the Navy and of the Navy shore activities assigned by the Secretary. The CNO is the principal Naval adviser to the President and to the Secretary of the Navy on the conduct of war, and he or she is the principal adviser and Naval executive to the Secretary on the conduct of activities of the Department of the Navy. Assistants are the Vice Chief of Naval Operations (VCNO), the Deputy Chiefs of Naval Operations (DCNOs), the Assistant Chiefs of Naval Operations (ACNOs), and a number of other ranking officers.
Naval Sea Systems Command	This organization engineers, builds, and supports America’s fleet of ships and combat systems. NAVSEA manages more than 130 acquisition programs, which are assigned to six affiliated Program Executive Officers (PEOs). Its Industrial Capacity, Maintenance, Policy, and Acquisition Logistics Division (Code N43) conducts analyses for depot maintenance workload decisions for fielded systems.
Naval Air Systems Command	This organization manages weapon system acquisition and logistics programs for the Navy’s fleet of airplanes. Its Industrial Management Planning Branch works with other headquarters organizations and the Command’s maintenance depots to make depot source-of-repair decisions.

Public-Sector Depot Maintenance Activities

The next key group of stakeholders to be discussed is the public-sector maintenance depots. These organizations perform more than half of the depot work on military equipment. They are government-owned and-operated and are run by the military and staffed by large civilian workforces. Because they are very large employers (employing 400 to over 8,000 people) in the areas in which they exist and include very skilled workforces, they are very well represented by members of Congress and by local and national union groups. Public-sector depot workers attain political visibility through their unions, most notably the American Federation of Government Employees, which lobbies Congress on behalf of federal civilian workers nationwide. Depot workers are also represented by a number of professional trade-skill unions associated with the AFL-CIO.

Figure 9 indicates the locations of the major public-sector depot activities.



Notes: AD = Army Depot; ALC = Air Logistics Center; MCLB = Marine Corps Logistics Base; NADEP = Naval Aviation Depot or Naval Air Depot; NSY = Naval Shipyard.

Figure 9. Major Public-Sector Depot Maintenance Activities

The public-sector depot maintenance activities are summarized here according to the following categories: Army depots, Naval air depots, Naval shipyards, Naval warfare centers, Air Force air logistics centers, and Marine Corps logistics bases. (A full description of the depot maintenance capabilities of each activity, which includes the city and state location for all of the public sector depots, is incorporated as Appendix B of this study.)

All major public-sector depots have been designated as Centers of Industrial and Technical Excellence (CITEs) for particular maintenance competencies that they are able to apply and develop in order to meet repair requirements. (The CITE designation is further discussed in the policy section of this chapter.)

Army Depot Maintenance Activities

The Army operates five major depot maintenance activities:

- Anniston Army Depot (ANAD) is capable of performing maintenance on both heavy- and light-tracked combat vehicles and their components. The depot is designated as a Center of Excellence for the M1 Abrams Tank and is the designated candidate depot for the repair of various Army combat vehicles.³³
- Corpus Christi Army Depot (CCAD) overhauls, modifies, and modernizes a large range of rotary-wing aircraft (helicopters). It also provides additional depot maintenance support, including on-site maintenance teams, crash damage analysis, and various kinds of technical support.³⁴ This is the Army's only aviation facility.
- Letterkenny Army Depot (LEAD) is a center of technical excellence for Air Defense and Tactical Missile Systems. It supports maintenance of the Patriot missile and its ground

³³ U.S. Department of the Army, <http://www.anad.army.mil/> (accessed 16 September 2004).

³⁴ U.S. General Accounting Office, *Depot Maintenance: Key Unresolved Issues Affect the Army Depot System's Viability*, GAO-03-682 (Washington, D.C.: GAO, July 2003).

support and radar equipment. The organization also conducts maintenance, modification, and storage operations on tactical missiles and ammunition. Recently, the organization has been required to quickly modify certain vehicles for Army Special Forces, Army Rangers, and Navy Seals, based upon combat requirements.³⁵

- Red River Army Depot (RRAD) provides depot-level maintenance actions on combat and tactical systems, such as the Army's Bradley Fighting Vehicle. It also conducts maintenance on air defense and tactical systems.³⁶
- Tobyhanna Army Depot (TYAD) is a repair, overhaul, and fabrication facility for the Army's communication and electronics equipment. These systems include satellite terminals, radio and radar systems, telephones, electro-optics, night vision and anti-intrusion devices, airborne surveillance equipment, navigational instruments, electronic warfare, and guidance and control systems for tactical missiles.³⁷

In terms of relative workload for the Army depots, it is possible to use a measure of direct labor hours devoted to depot maintenance to make some general comparisons. Overall, Anniston, Corpus Christi, and Tobyhanna each applied similar numbers of direct labor hours to their respective workloads during fiscal year (FY) 2003. Letterkenny and Red River accomplished a significantly smaller amount of work, based upon the direct-labor-hour measure.³⁸

Naval Air Depot Maintenance Activities

The Naval Air Systems Command operates three military depot maintenance organizations:

- Naval Air Depot (NADEP) Cherry Point performs major airframe modifications and repair for a wide variety of military aircraft, including the Harrier, the vertical-takeoff-

³⁵ U.S. Department of the Army, <http://www.letterkenny.army.mil/> (accessed 12 September 2004).

³⁶ U.S. Department of the Army, <https://www.redriver.army.mil/> (accessed 7 September 2004).

³⁷ U.S. Department of the Army, <http://www.tobyhanna.army.mil/> (accessed 13 September 2004).

³⁸ U.S. Department of Defense, *Depot Maintenance Business Profile 2003–2009*.

and-landing tactical attack jet flown by the Marines; the medium-lift transport Sea Knight helicopter; and the Sea Stallion and Super Stallion helicopter.³⁹

- NADEP Jacksonville performs maintenance, repair, overhaul, and modification of aircraft, engines, and aeronautical components. The primary airframes it supports are the various surveillance planes and Navy fighter aircraft. It also performs work on selected helicopters. Its engine repair capability is extensive.⁴⁰
- NADEP North Island performs depot-level repairs and modification on more than 250 aircraft per year. NADEP North Island repairs helicopters, fighter planes, and surveillance planes. These systems undergo maintenance and repair actions that are performed by NADEP North Island artisans and squadron personnel stationed in San Diego and at various other locations.⁴¹

Based upon a direct-labor-hour comparison similar to that discussed for the Army's maintenance depots, the Navy's depots are roughly the same size, with NADEP North Island slightly larger in terms of the number of direct labor hours applied.⁴²

Naval Sea Depot Maintenance Activities

The Naval Sea Systems Command (NAVSEA) operates six depot maintenance activities that perform ship-related maintenance:

- Portsmouth Naval Shipyard (PTNSY) provides submarine design, construction, modernization, and maintenance and has a key role in the very-deep-ocean submersible and special operations arenas.⁴³

³⁹ U.S. Department of the Navy, http://www.nadepcp.navy.mil/nadep_facts.htm#mission (accessed 15 September 2004).

⁴⁰ U.S. Department of the Navy, <http://www.nasjax.navy.mil/> (accessed 17 September 2004).

⁴¹ U.S. Department of the Navy, <http://www.nadepni.navy.mil/home/maintenance.htm> (accessed 20 September 2004).

⁴² U.S. Department of Defense, *Depot Maintenance Business Profile: Fiscal Years 2003–2009*.

- Norfolk Naval Shipyard (NNSY) is capable of a large range of maintenance actions, including overhauling, repairing, installing, and testing all types of steam generation and combustion control systems, main engines, hydraulic components, generators and ship auxiliaries, pumps (weld repair and testing), valves, aircraft launch-and-recovery equipment, diesel engines, compressors, and optical alignment systems. In sum, it is capable of providing repair and modernization to the entire range of Navy ships.⁴⁴
- Puget Sound Naval Shipyard and Intermediate Maintenance Facility engages in an extensive program of modernizing aircraft carriers. In 1990, the U.S. Navy authorized a program to recycle nuclear-powered ships at the shipyard. Approximately 6 percent of the shipyard's workload involves inactivation, reactor compartment disposal, and recycling of ships. Like NNSY, the shipyard can provide maintenance for every class of Navy vessel, including the Trident submarine fleet. The site operates refit piers, repair shops, and a dry dock and serves as the homeport of submarines, ships, and aircraft carriers in the Pacific Northwest.⁴⁵
- Pearl Harbor Naval Shipyard and Intermediate Maintenance Facility is the largest ship repair site between the U.S. West Coast and the Far East. The shipyard plays a significant role in maintaining the Navy's fleet of ships in the Pacific. It is multicapable, and because of its geographic location, it is of strategic importance.
- The Naval Undersea Warfare Center (NUWC) Division, Keyport, has detachments located near Pacific Fleet customers in Lualualei and Pearl Harbor, Hawaii, and in San Diego, California. It also operates fleet-testing and logistics sites at Nanoose, British

⁴³ U.S. Department of the Navy, <http://www.ports.navy.mil/> (accessed 10 September 2004).

⁴⁴ U.S. General Accounting Office, *Navy Ship Maintenance: Allocation of Ship Maintenance Work in the Norfolk, Virginia*, Letter Report, GAO/NSIAD-99-54 (Washington, D.C., 24 February 1999).

⁴⁵ U.S. Department of the Navy, <http://www.psns.navy.mil/> (accessed 13 September 2004).

Columbia, and at Hawthorne, Nevada. NUWC provides test and evaluation; in-service engineering, maintenance, and repair; and industrial-base support for undersea warfare systems, countermeasures, and sonar systems.⁴⁶

- The Naval Surface Warfare Center (NSWC) Crane Division has its origins as the military's central controller and storage point for ammunition, including pyrotechnics and illuminating projectiles. After the end of World War II, NSWC Crane began to develop expertise in engineering and electronics that has carried into its current mission. NSWC Crane is a multimission, multiservice product and maintenance center. NSWC Crane acts as a steward of microwave tubes, printed wiring boards, pyrotechnics, radiation-hardened devices, and batteries.⁴⁷ NSWC Crane is also the Navy's center for reverse engineering and often provides repair capabilities when commercial support for particular items ends.

In terms of direct-labor-hour comparisons, the workload at the Puget Sound Naval Shipyard and Intermediate Maintenance Facility is the largest of the four NAVSEA shipyard facilities. It is followed closely by Norfolk Naval Shipyard. Portsmouth Naval Shipyard and Pearl Harbor Naval Shipyard and Intermediate Maintenance Facility represent not quite half of the direct-labor-hour amount of Puget Sound. The Naval Surface Warfare Center Crane and Naval Undersea Warfare Center Keyport are similar in terms of direct-labor-hour allocation.⁴⁸

⁴⁶ U.S. Department of the Navy, <http://www-keyport.kpt.nuwc.navy.mil/Leadership.htm> (accessed 5 September 2004).

⁴⁷ U.S. Department of the Navy, <http://www.crane.navy.mil/whoweare> (accessed 10 September 2004).

⁴⁸ U.S. Department of Defense, *Depot Maintenance Business Profile: Fiscal Years 2003–2009*.

Air Force Depot Maintenance Activities

The Air Force operates three air logistics centers that accomplish depot maintenance activities:

- Oklahoma City Air Logistics Center (OC-ALC) provides worldwide logistics support and depot-level maintenance for a variety of weapon systems, including the B-1, the B-52, the multipurpose C-135-series aircraft, the E-3, and the E-4, and management of the B-2 bomber. It also supports the short-range attack missile and the air-launched cruise missile. The center is the public-sector source for management and repair of a large variety of aircraft engines.
- Ogden Air Logistics Center (OO-ALC) provides logistics support for the entire Air Force inventory of intercontinental ballistic missiles, as well as depot-level maintenance for F-16 and C-130 aircraft.
- Warner Robins Air Logistics Center (WR-ALC) provides worldwide logistics management and depot-level maintenance for the F-15, C-5, and C-130 aircraft, as well as for utility aircraft, helicopters, missiles, and drone and remotely piloted vehicles. It is also the main U.S. operating base for the E-8 Joint Surveillance and Target Attack Radar System aircraft.⁴⁹

In a direct-labor-hour comparison, these organizations are roughly equivalent in terms of workload, but the scope of work is much different at each location.

⁴⁹ U.S. Department of the Air Force, <http://www.usaf.com/orgs/5.htm> (accessed 5 September 2004).

Marine Corps Depot Maintenance Activities

The U.S. Marine Corps operates two maintenance centers:

- Maintenance Center Albany (MCA) repairs, rebuilds, and modifies all types of Marine Corps ground combat equipment and combat support and combat service support equipment. The center also works on all types of military ordnance, motor transport, engineering, general purpose, electronic, and communication equipment.⁵⁰
- Maintenance Center Barstow (MCB) provides support for weapon systems, such as amphibious, combat, tactical, communications, electronics, missiles, ship engines, construction, optics, and metrology. This support includes diagnostics, rebuild, engineering support services, manufacturing of small parts through the Maintenance Center's Small Mechanical Parts Manufacturing System (SMPMS), testing, radiographic services, calibration, prototype fabrication, technical assistance, and quality assurance services.⁵¹

The Marine Maintenance Centers are roughly equivalent in terms of direct labor hours applied to Marine Corps depot maintenance workloads.⁵²

In summary, the military's public-sector maintenance depots are a widely dispersed and formidable set of military activities. They accomplished an estimated 82 million direct labor hours of depot maintenance in FY 2003.⁵³ This work was on gear that ranges from aircraft airframes and components to gas turbine engines, tactical vehicles, and ordnance and munitions. Many of the depots are the largest employers in their state or region. Sizable career civilian

⁵⁰ U.S. Department of the Navy, <http://www.logcom.usmc.mil/maintctr/generalinfo.asp> (accessed 6 September 2004).

⁵¹ U.S. Department of the Navy, https://www.bam.usmc.mil/maintctr/Know_more.htm (accessed 9 September 2004).

⁵² U.S. Department of Defense, *Depot Maintenance Business Profile*.

⁵³ Ibid.

workforces aligned with local population centers can lead to positions on depot maintenance provision decisions that are different from those advocated by their Military Service headquarters.

Private-Sector Depot Maintenance Activities

Private-sector depot maintenance activities account for approximately half of the depot maintenance workload accomplished for the military in any given year. There is a range in types of these repair activities, from large weapon system integrators and prime contractors to smaller, more specialized kinds of depot shops. The interests of these depots are well represented in Congress and various lobbying organizations, such as the Business Executives for National Security and the National Defense Industrial Association. Table 4 contains a list of the top ten depot maintenance contractors, based upon FY 2000 DoD data.⁵⁴ The major weapon systems these companies support is also provided, along with associated major plant locations.

In the aggregate, these activities represent a full range of depot maintenance capabilities for the systems they support. By and large, the private-sector activities are separately contracted capabilities located on dispersed sites throughout the United States.

⁵⁴ U.S. Department of Defense, "Depot Maintenance Reporting," in *Financial Management Regulation*, vol. 6, ch. 14, AP-MP(A) 1397 Report Data, http://www.dod.mil/comptroller/fmr/06/06_14.pdf [PDF] (accessed 9 September 2004).

Table 4. Major Private-Sector Depot Maintenance Activities

Name	Major Weapons Supported	Locations of Plants
Lockheed Martin	Major missile upgrade and refurbishment	Fort Worth, TX Marietta, GA
Boeing	Fixed- and rotary-wing aircraft repair	St. Louis, MO Long Beach, CA San Antonio, TX
United Technologies	Aircraft and helicopter engine repair	Stratford, CT West Palm Beach, FL San Antonio, TX
Honeywell	Aircraft and missile avionics, satellites, components	Minneapolis, MN Phoenix, AZ
PEMCO	Aircraft structural repair and refurbishment	Birmingham, AL
Raytheon	Missile upgrade and refurbishment	Andover, MA
Northrop Grumman	Major aircraft repair and modification	Bethpage, NY
Southwest Marine	Nonnuclear ship repair, modernization, conversion, and overhaul; includes cruisers and destroyers	Pearl Harbor, HI San Diego, CA San Pedro, CA Ingleside, TX Norfolk, VA
Todd Pacific Shipyard	Principal yard for all Navy surface ships in the Pacific Northwest	Seattle, WA
General Dynamics	Nuclear submarines, Navy destroyers	Groton, CT

The Military Operating Commands

The Military Operating Commands are the customers that receive the products that are repaired or refurbished through depot maintenance processes. They are responsible to the President and the Secretary of Defense for accomplishing the military missions assigned to them. These organizations are run by Commanders of the Unified Combatant Commands who exercise authority over forces assigned to them as directed by the Secretary of Defense. The operational chain of command runs from the President to the Secretary of Defense to the Commanders of the Unified Combatant Commands. The Chairman of the Joint Chiefs of Staff functions within the chain of command by transmitting to the Commanders of the Unified Combatant Commands the

orders of the President to the Secretary of Defense. There are five Combatant Commanders whose forces use the weapon systems and equipment that are products of the depot maintenance process.

These operating forces are undergoing major structural changes while conducting fighting operations on several fronts. They are also facing enemies that are different from those faced in the past. In order to address these enemies, the operating forces are moving toward tactical approaches that are more capabilities-based—that focus more on delivering specific effects and how an adversary might fight, which is a move away from a specific threat-based orientation used in the past in which clear enemies were identified and battle plans formulated and carried out.

This is a challenging undertaking, primarily while combat operations are under way. Depot maintenance provision choices are related to these war-fighting changes because a new logistics and maintenance framework is required to support them. As the Chairman of the Joint Chiefs of Staff, General Richard Myers, recently stated, Transforming logistics along a pathway that emphasizes capabilities and jointness will evolve from the creative aggregation of systems, driving changes in doctrine, inputs from adaptive organizations, and the application of Service Core competencies into new elements for applying military force, sustaining and protecting that force, and achieving strategic success. It will require investment in new technologies that are “born joint”—or they simply will not be funded.⁵⁵

These changes are often referred to as military “transformation” in the popular media, and they are having a direct impact on depot maintenance and choices about its provision. For example, concepts like Condition-Based Maintenance allow onboard sensors to monitor equipment condition and eventually to predict impending failure, which could decrease

⁵⁵ Statement of General Richard Myers at the 32nd IFPA Fletcher Conference on National Security Strategy and Policy, Washington, D.C., November 2001.

troubleshooting time and the complexity of depot repair. Also, reliability improvements for operating equipment could substantially improve overall equipment availability and reduce the requirement for depot maintenance generated by operating units. Of course, introduction of these new concepts does not eliminate the need for depot maintenance. Even with substantially reduced maintenance requirements, new systems must be supported in the context of a significant inventory of older equipment that will still need to be repaired and refurbished through depot maintenance processes.

The stakeholders just described represent the policy community⁵⁶ for depot maintenance decision making. They behave according to specific laws and policies that some within the community have helped create and with which others must comply. The following sections will describe these current mandates, Directives, and distinct program and institutional characteristics.

Applicable Laws and Policies

National Depot Maintenance Policy

Depot maintenance source-of-repair decisions are affected by Public Law and Department of Defense and Service policy. Presented here is information that identifies and describes this legislation and the DoD and Military Service policy and procedures that address it. As background, it is essential to discuss the “Core” concept that is used by the military in the context of the depot maintenance provision decision. It is central to an understanding of the current national policy for depot maintenance provision.

⁵⁶ This policy community will later be referred to as a policy subsystem in Chapter 3 of this analysis.

The Core Concept

The idea that organizations succeed by developing and strategically maintaining a unique set of capabilities is well known. In the private sector, this concept is often referred to as “Core competencies” and involves the principal idea that firms succeed not just by keeping gross income above long-run costs but also by maintaining lower costs, higher quality, or better product performance than their competitors (i.e., by providing better value in the long run). Furthermore, these competitive advantages can often be attributed to an organization’s unique, difficult-to-imitate resources (sometimes called its “secret sauce”). Thus, an organization’s Core competencies reflect what it knows and is able to do.⁵⁷

Southwest Airlines, for example, focuses upon its Core competencies—providing convenient, efficient air travel at low costs—by transferring many functions previously performed inside the company to outside providers. The most extensive of Southwest’s aircraft maintenance, for example, is provided by an external company. By doing this, Southwest can avoid costly investments in facilities, people, and inventory and focus upon what it considers its “Core” mission.

The military has applied this concept of Core capabilities to depot maintenance in a specific fashion, with considerable input from Congress. The Core concept was formulated within the military during the mid-1980s to minimize the risk that was anticipated if important depot maintenance capabilities were not available during wartime (i.e., that depot maintenance support might not be available when needed by the operating forces). This concept was originally codified in Public Law in 1985 and is largely based on the premise that public-sector depot maintenance activities are inherently more ready and controlled (i.e., less risky) than their

⁵⁷ C. K. Hamel and G. Hamel, *Competing for the Future* (Cambridge: Harvard Business School Press, 1996).

private-sector counterparts and are motivated by readiness of the operating forces rather than incentives normally associated with private-sector firms, such as profit margins or net earnings.

Specific Core depot maintenance capability requirements that reflect this application of “Core” have been outlined by the Deputy Under Secretary of Defense (Logistics).⁵⁸ This document specifies that core depot maintenance capabilities must be responsive in several key areas including the ability to rapidly increase output and change priorities within a wide compass of potential, but inherently unpredictable, needs as well as provide a wide spectrum of industrial repair capabilities at a single site. Depot maintenance core capabilities must also include the ability to rapidly dispatching field teams for crash/battle damage and in-theater repair as well as ensure that the government has reasonable cost alternatives based on “smart buyer” knowledge and/or a second option in an otherwise sole-source situation. Finally, public sector depot maintenance activities must act as the “last source of repair” when the private-sector has no interest in specific depot maintenance workloads and ensure equipment life-cycle support when commercial manufacturers go out of business or change product lines.

Since the early 1990s, the military has implemented this Core concept with a methodology designed to justify which depot maintenance capabilities should be maintained in public-sector depots to meet what are termed “readiness and sustainability requirements” for the weapon systems that are actually in use or are planned to be used in combat.

The methodology requires the Military Services to identify the number and types of systems called for by various specific combat scenarios and to compute public-sector depot-level maintenance capability requirements (measured in direct labor hours) for those systems. This is a

⁵⁸ U.S. Department of Defense, “Study Results,” *Integrated Management of Department of Defense Maintenance Activities*, vol. 1 [Washington, D.C.: Office of the Deputy Under Secretary of Defense (Logistics), 1993].

biennial process that involves a determination of the skills, facilities, and equipment needed to complete the associated workload to support these requirements.

In summary, “Core competencies” has a unique meaning in the context of depot maintenance provision decisions. The term refers to the minimum public-sector maintenance depot size and constitution (i.e., people, skills, and equipment) needed to support the weapon systems that are required in the most demanding combat scenarios that are contemplated by the military. Each Military Service is required by law to establish Core maintenance capabilities to support these Core programs. Examples of Core programs for the Air Force, for example, are the C-17 and B-2 airplanes. This concept of “Core” is very evident in the law that applies to military depot maintenance provision decisions.

Relevant Public Law

Part IV of Title 10 of the U.S. Code (U.S.C.) contains more than 600 sections that deal with Military Service, supply, and procurement matters. At least 24 of these include provisions that apply to depot maintenance. Four of these sections—2460, 2464, 2466, and 2474—articulate overarching national policy on depot maintenance provision, and three of them relate directly to depot maintenance source-of-repair decisions. (A full list of applicable laws is provided in Appendix C of this study.) All of these sections are cited as statutory requirements in Defense Acquisition Policy.⁵⁹

In summary,

- Section 2460 defines depot-level maintenance and repair very specifically for the military.

⁵⁹ U.S. Department of Defense, “Statutory, Regulatory, and Contract Reporting Information and Milestone Requirements,” *Operation of the Defense Acquisition System*, Enclosure 3, Table E3.T1. Statutory Information Requirements, DoDI 5000.2 (Washington, D.C., 2003).

- Section 2464 requires the Secretary of Defense (and hence all Services) to identify Core logistics (i.e., maintenance) capability requirements and the workload required to sustain those capabilities. This statute requires that core maintenance capabilities be established within four years after initial operating capability of the particular system. The depot maintenance core methodology is a decision-logic process designed to guide the Services through the requirements determination process.
- Section 2466, the so-called “fifty-fifty rule,” limits the amount spent for contract depot maintenance in any fiscal year to no more than half of the funds made available for depot maintenance within any Service.
- Section 2474 refers to Centers of Industrial and Technical Excellence (CITEs). This section authorizes and encourages depot maintenance activities designated as CITEs to enter into public-private partnerships for the performance of work related to a CITE’s Core competencies. Many other sections of the law apply to partnerships of various types. The section also permits industrial firms to lease or otherwise use underutilized or unutilized facilities and equipment at the CITE to perform maintenance or produce goods.

The most significant element of the law in this area is Section 2464. Of interest is the explicit Congressional definition of depot maintenance as a Core logistics capability for the Department, its requirement for a clear identification of facilities performing military depot-level maintenance, and the requirement placed upon the Secretary of Defense to require performance of workloads to support such capabilities in public-sector facilities. Table 5 provides a summary of Section 2464 by key categories.

Table 5. Summary of 10 U.S.C. 2464

Category	United States Code (U.S.C.), Title 10, Section 2464 Guidance
Purpose	It is essential for the national defense that DoD maintains a Core logistics capability that is government-owned and government-operated (GOGO) to ensure a ready and controlled source of technical competence and resources necessary to ensure effective and timely response to a mobilization, national defense contingency situations, and other emergency requirements.
Responsibility	The Secretary of Defense shall require the performance of Core logistics workloads necessary to maintain the Core logistics capabilities at DoD government-owned/government-operated facilities and shall assign such facilities sufficient workload to ensure cost efficiency and technical competence in peacetime while preserving the surge capacity and reconstitution capabilities necessary to support fully the strategic and contingency plans.
Capabilities	The Core logistics capabilities shall include those capabilities necessary to maintain and repair the weapon systems and other military equipment (including mission-essential weapon systems or materiel) not later than four years after achieving initial operational capability.

DoD Depot Maintenance Policies

More than thirty documents have been issued since 1990 that pertain to depot-level maintenance provision and/or Core capabilities. The issuances consist of twenty-one Memorandums; eight DoD Directives/Regulations; three Reports; two Logistics Strategic Plans; and one DoD Handbook. (A complete list of these documents is included as Appendix D of this study.) A review of these documents indicates that the key primary sources of military policy relating to the depot maintenance source-of-repair decision are contained in a Departmental Instruction, a Directive, and a Policy Letter:

- DoD Instruction 5000.2 summarizes statutory, regulatory, and contract report information.

An associated *Interim Defense Acquisition Guidebook* states:

*Depot Maintenance Source of Support. 10 U.S.C. 2464... and DoD policy require organic Core maintenance capabilities. Such capabilities provide effective and timely response to surge demands, ensure competitive capabilities, and sustain institutional expertise. Within statutory limitations, support concepts for new and modified systems shall maximize the use of contractor-provided, long-term, total life-cycle logistics support that combines depot-level maintenance for non-Core-related workload along with wholesale and selected retail materiel management functions. Best value over the life cycle of the system and use of existing contractor capabilities, particularly while the system is in production, shall be considered as key determinants in the overall decision process....*⁶⁰

⁶⁰ U.S. Department of Defense, *Interim Defense Acquisition Guidebook* (Washington, D.C., 2002). The term “organic” in these documents is sometimes used to refer to public-sector depots.

- Department of Defense Directive (DoDD) 4151.18 is the basic military maintenance policy Directive that sets requirements for the establishment of maintenance programs and requires the use of a DoD Core decision-logic methodology.⁶¹ It also reflects the legal requirement to establish Core capability requirements and implement related capabilities not later than four years after initial operational capability of a particular system. It further requires access to technical information necessary to establish and operate the capabilities, as well as to support competitive sourcing of system support throughout its life cycle.
- A policy Memorandum issued by the Deputy Under Secretary of Defense (Logistics and Materiel Readiness) [DUSD(L&MR)] contains the actual Core methodology.⁶²

Current Program Characteristics

The general stakeholder groups described in this chapter must interact in certain formal ways, based upon the laws and policies just described. As mentioned, key OSD offices develop policy Directives related to depot maintenance provision. The Military Services' headquarters organizations then build implementation policy and provide programming direction and oversight. The acquisition aspects of these headquarters organizations make depot maintenance source-of-repair decisions for new systems based upon policy that favors the private sector, but must be in overall compliance with legal requirements for public-sector Core capabilities. The logistics aspects of these headquarters organizations support depot maintenance source-of-repair decisions for fielded systems using the core methodology and related analyses. Overall, these

⁶¹ U.S. Department of Defense, *Maintenance of Military Materiel*, DoDD 4151.18 (Washington, D.C., 2004).

⁶² U.S. Department of Defense, *Biennial Data Call for Identification of Core Logistics Capabilities for Depot-Level Maintenance and Repair* [Washington, D.C.: DUSD(L&MR), 2003].

management groups are charged with making decisions, developing concepts, and standardizing terms to guide overall maintenance provision.

As discussed, the actual accomplishment of depot-level maintenance falls to depots and shipyards and to private-sector maintenance providers. Figure 10 illustrates this organizational framework.

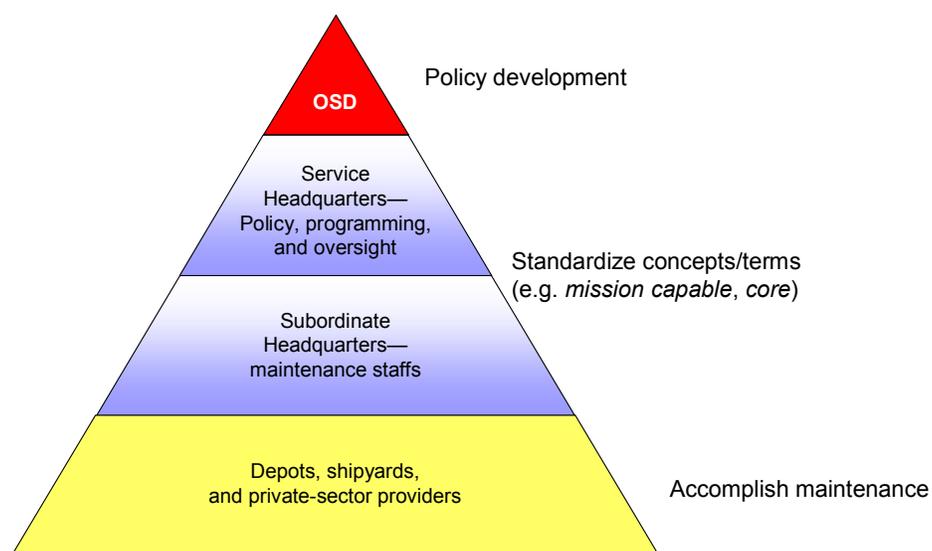


Figure 10. Current DoD Organizational Framework

In summary, the legal and policy setting for depot maintenance provision decision making is as follows. The Congress requires that weapon systems identified in combat scenarios have a public-sector depot capability (called “Core”) established within four years of a system’s introduction into service. Congress also states that no more than 50 percent of the monies allocated for depot maintenance in a given fiscal year can be applied to private-sector maintenance provision. The relatively recent designation of public-sector depot Centers of Technical Excellence (CITEs) for Core capabilities allows a select amount of private-sector accomplishment of public-sector workloads that are considered Core.

In response, the DoD has developed a set of policies that generally comply with these provisions. The DoD has tasked its Military Services to apply formal decision-logic processes to determine Core capability requirements and associated workload, and they have done so, with varying degrees of success. DoD has also reported on the fifty-fifty requirement and has generally been in compliance with that requirement, despite official policies to prefer contractor logistics support in many new and developing weapon systems. (During FY 2000, the U.S. Air Force failed to comply with the fifty-fifty limit.⁶³)

Two descriptive models are offered to summarize the institutional arrangements and stakeholders reviewed in this chapter. Figure 11 provides official positions and key policy roles that each stakeholder plays in the depot maintenance provision decision process. Table 6 provides specific information as to the types of action each stakeholder takes in relation to decisions about depot maintenance provision. (The historical patterns that have shaped the character of these actions will be more fully explored in the next chapter.)

⁶³ U.S. General Accounting Office, *Depot Maintenance: Air Force Faces Challenges in Managing to 50-50 Ceiling*, GAO/T-NSIAD-00-112 (Washington, D.C.: GAO, 2000).

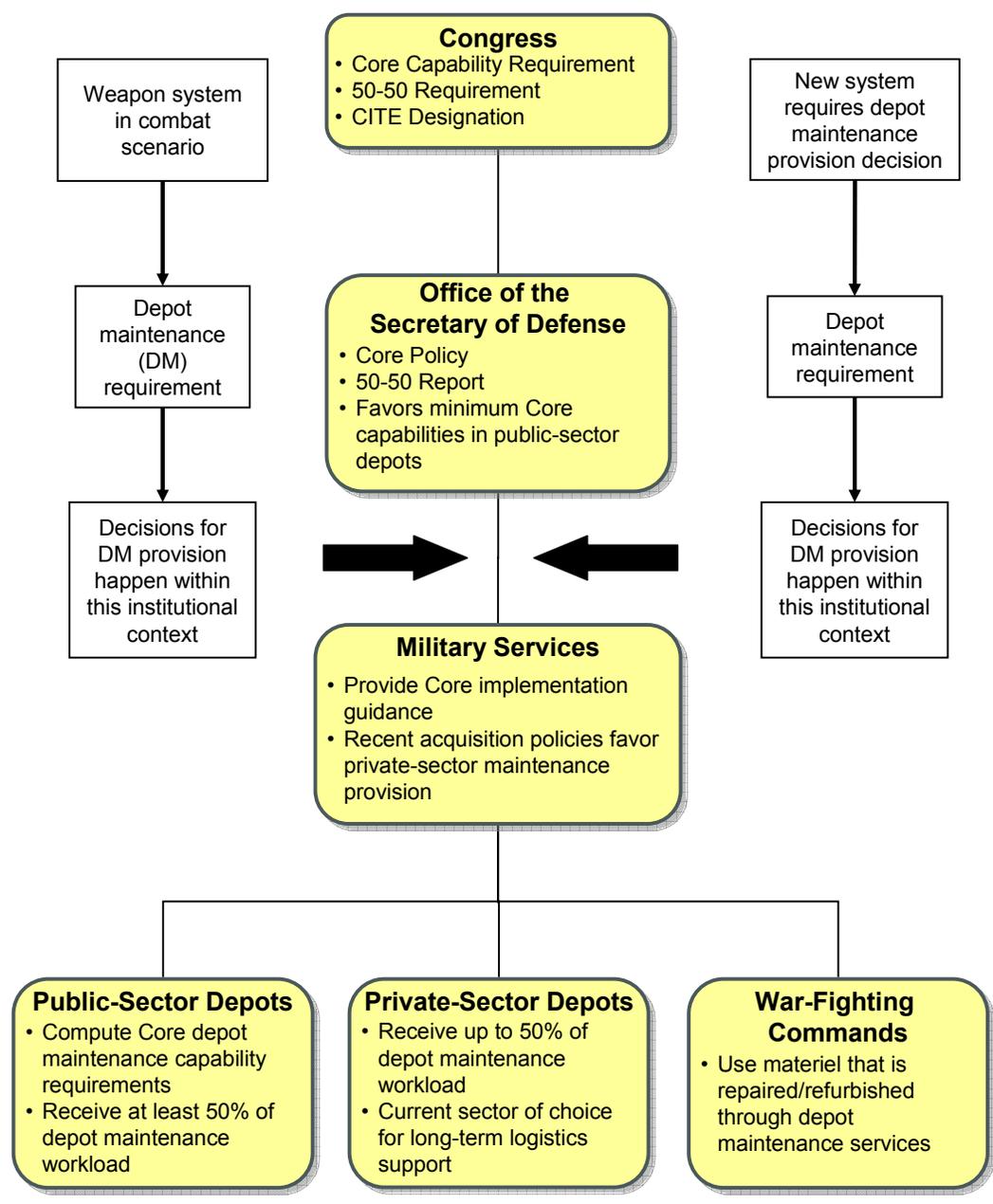


Figure 11. Organizational Positions and Roles

Table 6. Actions Relevant to Depot Maintenance Sourcing in DoD in Relation to Policy Players Involved

Policy Player Involved	Action
Congress	Provides central policy guidance on sourcing depot maintenance for all systems taken together (e.g., fifty-fifty rule; Core depot maintenance requirement)
Congress; Office of the Secretary of Defense	Provide central policy guidance on sourcing depot maintenance for specific systems (e.g., rules of competition, relevance of “Core capability,” implications of depot maintenance provision policy for addressing individual systems)
Military Services	Define concepts in central policy guidance (e.g., define “Core capability”)
Logistics and Acquisition Commands within the Military Services; Private-Sector Maintenance Activities	Choose actual performance parameters (e.g., capacity, turn-time, defect rate), including cost, for private depot maintenance provision for individual systems
Logistics and Acquisition Commands within the Military Services; Public-Sector Maintenance Activities	Choose actual performance parameters (e.g., capacity, turn-time, defect rate, direct labor efficiency, direct-to-indirect labor ratio), including cost, for public depot maintenance provision for individual systems
Acquisition Commands within the Military Services	Use various analyses or competition to select sources for individual systems
Logistics Commands within the Military Services; the Base Realignment and Closure (BRAC) Process	Choose where to place public-sector depot maintenance capabilities
Logistics Commands within the Military Services and Military Operating Commands	Use analysis or competition to allocate depot maintenance workload among existing sources for individual fielded systems
Office of the Secretary of Defense; Military Services; Logistics Commands; Military Operating Commands	Set resource levels for actual depot maintenance activities: investment dollars, operating dollars, billets, training, etc.

The Importance of the Depot Maintenance Provision Decision

Recent military acquisition policies indicate a preferred reliance upon contractor support for major weapon systems. This trend is now “trickling down” into major military support services, such as depot maintenance, and is subsequently reflected in the policies just described. This adjustment is significant and is occurring while fundamental changes are also under way as to how the United States fights and prepares for wars—at a time in which the country is at war on several fronts.

Depot maintenance (and decisions about who should provide it and on what basis) is part of the substantial changes that are happening within the U.S. military. The descriptions and institutional setting illustrated in this chapter do reflect the current decision-making framework for its provision and it provides a comprehensive description of the area for those interested in the subject. However, this description rests upon certain stakeholder relationships and a lively contemporary history, as well as various informal stakeholder interactions. This recent history has taken a particular course because a number of issues underlie depot maintenance decision making that very keenly interest the stakeholders involved. These issues are suggested in the preceding descriptive narrative and summarized in Table 7.

Table 7. Issues Raised by Descriptive Review

Substantive Issue	Description
Military Mission Support	Depot maintenance and repair capabilities are essential for the war-fighting mission of the U.S. military, regardless of who performs the work. Depot maintenance provides routine services, but also needs the capability to surge and reconstitute based upon requirements that are sometimes difficult to foresee and are presently changing. This introduces potential elements of risk to results of depot maintenance provision choices.
Depot Maintenance Industrial Base	Depot maintenance is performed by many organizations with significant workforces. These groups are well represented politically and contribute in substantial ways to many communities in this nation. As less money is spent upon major system acquisitions, there is substantial interest from both the public and private sectors to provide more depot maintenance services.
Compliance	Because depot maintenance involves a national investment and jobs, local and national economies are involved. This means constituencies in Congressional districts. Several specific statutory requirements currently address depot maintenance provision, and Congress is attuned to Executive Branch developments in this area. People who make decisions about who should provide depot maintenance services must comply with, and report to, Congress regarding overarching quotas and public-sector capabilities for depot maintenance provision.
Economic Factors	Because the military spends about \$20 billion a year on depot maintenance services, the Department has taken approaches designed to limit the costs involved, as well as to improve efficiencies. This fact has generated interest in private-sector provision and competition when considering depot maintenance services.

With these issues as a foundation, a policy analysis that begins at the end of the Cold War will be offered in the next chapter. This will provide a fuller perspective on the “as-is” situation just described by identifying the historical emphases and key stakeholder positions that have

shaped it. The account will be complicated, yet instructive, as a characterization from which strategic transformation in this important area of military decision making might be considered.

Chapter Three: The Treatment of the U.S. Military Depot Maintenance Provision Decision from 1990 to the Present

In the previous chapter, depot maintenance provision was discussed in narrative terms. Chapter Two delineated depot maintenance and the laws, policies, and stakeholders that are involved in its provision for the U.S. military. This chapter now moves from that characterization to a more in-depth assessment of the treatment of the depot maintenance provision decision. It does so by reviewing relevant literature and perspectives, beginning in 1990.⁶⁴

After an elucidatory literature review that has informed the history discussed, the chapter describes contemporary events that have affected policy alternatives and agendas regarding choices about depot maintenance provision. The result will be a description of the current stakeholder positions that influence the formal decision-making framework

An understanding of this history potentially enhances the likelihood of strategic improvement in this area. This is because, in the process of policy development, recombination of existing factors is often more important than invention. While there may be “no new thing under the sun,” seeds for change and innovation often lie within current perspectives. Change, in fact, can involve the recombination of elements that are already familiar to those involved.⁶⁵ In this chapter, the stakeholder perspectives that are discerned and clarified from the historical analysis provide a representation of the topic that has not been previously been accomplished.

⁶⁴ The starting point for the historical review is 1990, for several reasons. First, it began a new operational era for the U.S. military. After the fall of the Berlin Wall in 1989, Iraq attacked the Kurds in northern Iraq and the Gulf War began on August 2; regional conflicts of a significant scale began in earnest at this point. Second, Departmental changes that bear upon the depot maintenance provision decision began with some intensity in 1990 and continue to the present.

⁶⁵ Kingdon, *Agendas, Alternatives, and Public Policies*.

Specifically, in this chapter, the depot maintenance decision-making framework is reviewed in terms of the following:

- The key institutional studies that have created important features of the framework and influenced stakeholder activity, as well as the primary areas of academic literature that have explained aspects of the depot maintenance provision choice
- Historical perspectives of policies and positions that key groups have taken as a result of their viewpoint of the depot maintenance provision issue
- A summary of the stakeholder positions that have resulted based upon a perspective of the flow of problem definitions, policy advocacy, and politics that have occurred

Literature Related To Depot Maintenance Decision Making

A substantial body of literature exists that relates to this topic. This writing is primarily in the form of institutional studies and several areas of academic study. The institutional studies have been undertaken and sponsored by the DoD, as well as other organizations. At this juncture, both institutional and academic literatures are identified and summarized. Causal relationships between certain documents and various stakeholders and policy positions are explored in an historical review that is offered in the next section of this chapter. However, the relevance that each academic area has to depot maintenance decisions in the military setting is discussed, as well as the salient explanatory features each area offers. Some of these features, as will be discussed, will be incorporated in the Strategic Improvement Agenda (SIA) that is offered in Chapter Four of the study.

Contemporary Depot Maintenance Decision-Making Institutional Literature

Since 1990, the contemporary institutional literature related to decisions about the depot maintenance provision is made up partially of a group of large studies. Organizations that have provided these studies include the Joint Staff,⁶⁶ the Deputy Under Secretary of Defense (Logistics),⁶⁷ and the Commission on Roles and Missions of the Armed Forces.⁶⁸ The Defense Science Board⁶⁹ and supportive groups⁷⁰ have also undertaken substantial studies. My exploratory research indicates that ten studies are widely considered to be most influential. These studies, including their key objectives and major findings, are summarized in chronological order in Table 8. The general pattern of the contents of these studies is for cost reduction in depot maintenance provision overall, with a clear emphasis in the later studies on relying upon the private sector to meet this goal.

⁶⁶ J. J. Went, General, United States Marine Corps (Ret.), *Depot Maintenance Consolidation Study* (Washington, D.C.: Joint Staff of the Department of Defense, 1993).

⁶⁷ U.S. Department of Defense, Office of the Deputy Under Secretary of Defense (Logistics), *Integrated Management of Department of Defense Maintenance Activities*, vol. 1 (Washington, D.C., 1993).

⁶⁸ John P. White, *Directions for Defense Report of the Commission on Roles and Missions of the Armed Forces* (Washington, D.C.: GPO, 1995).

⁶⁹ Robert N. Parker, *Report of the Defense Science Board Task Force on Depot Maintenance Management*, 2d printing (Washington, D.C.: GPO, 1994).

⁷⁰ Jacques S. Gansler and Gordon England, *Study on Achieving an Innovative Support Structure for 21st Century Military Superiority: Higher Performance at Lower Costs*, Report of the Defense Science Board (Washington, D.C.: Office of the Assistant Secretary of Defense (Public Affairs), 1996, 1998).

Table 8. Major Department of Defense Studies

DoD Studies Related to the Depot Maintenance Provision Decision	Summary of Objectives	Findings
Depot Maintenance Consolidation (the Went Study)—Joint Staff, 1993	Reduction in excess capacity	Recommend consolidation of depot activities under Joint Depot Maintenance Command; recognized contracting out as a long-term possibility.
Integrated Management of the DoD Maintenance Activities—Deputy Under Secretary of Defense (Logistics), 1993	Benefits of competitive bidding and reduction in excess depot maintenance capacity	Public-sector Core maintenance capability is needed to minimize operational risk and control costs. Also, competition drives efficiencies that might not be attained.
Report of the Defense Science Board Task Force on Depot Maintenance Management—Under Secretary of Defense (Acquisition and Technology), 1994	To determine appropriateness of competition as an effective management tool to determine depot workload sources of repair	Maintain control of Core depot maintenance capabilities in the public sector. Replace mandated sixty-four Congressional restriction with a Core concept; abandon public-versus-private competitions, except in the Air Force.
Report of the Commission on the Roles and Missions of the Armed Forces—Commission on Roles and Missions of the Armed Forces, 1995	To evaluate the Armed Forces' current allocation of roles, missions, and functions in order to recommend changes	DoD should rely on the private sector for depot maintenance, particularly for new weapon system support.
Report of the Defense Science Board Task Force on Outsourcing and Privatization—Under Secretary of Defense (Acquisition and Technology), 1995	To develop recommendations regarding how DoD can use outsourcing as a cost reduction tool	Contract out all functions to the private sector, except those that are inherently governmental, that are directly involved in war fighting, or for which adequate private-sector capability does not exist.
Report of the Defense Science Board Task Force on Logistics Modernization—Under Secretary of Defense (Acquisition and Technology), 1995	To investigate overall logistics modernization for the DoD	Outsource entire weapon systems; rely on private sector, using commercial-like practices such as "power by the hour."
Report of the Defense Science Board: on Achieving an Innovative Support Structure for 21 st -Century Military Superiority: Higher Performance at Lower Costs—Under Secretary of Defense (Acquisition and Technology), 1996	To assess current DoD support infrastructure in order to enhance performance and reduce costs	Place public-sector employees in only inherently governmental functions, and outsource all other functions to the private sector.
Transforming Defense: National Security in the 21 st Century—National Defense Panel, 1996	To investigate long-term DoD sustainment issues	DoD is not an efficient manager of industrial facilities. Congress should remove restrictive legislation.
Report of the Defense Science Board Acquisition Subpanel of the Defense Acquisition Reform Task Force on Defense Reform—Under Secretary (Defense for Acquisition and Technology), 1998	To reshape acquisition force to respond in a better, faster, and cheaper fashion	Expand outsourcing activities.
Department of Defense Core Capability Requirements Determination—PricewaterhouseCoopers, 2001	Validation of DoD Core depot-level maintenance Core capability requirements	Wide variations in implementations of DoD Core methodology exist among Services; private-sector capability assessments are rarely performed; contemporary business practices are not widely used.

The content of these studies indicate a clear movement away from an emphasis on downsizing and consolidation as a means of reducing the costs of depot maintenance toward an emphasis on outsourcing as a way to meet both capability improvement and cost reduction for its provision. An additional transition in the content of the studies is a move away from the presumption that public-sector capabilities are necessary to control risk. The new theme suggested is that no form of weapon system support—including depot maintenance provision—need be a capability owned and operated by the public sector. The overall trend suggested in these studies is movement from a general lack of interest in outsourcing in 1993, to an effort to describe depot maintenance as a Core competency for DoD later that year and in 1994, and then to an outright challenge to the role for public-sector depot maintenance (and more generally any logistics support) beginning in 1995.

Besides the studies sponsored and undertaken on behalf of DoD, many related studies have been produced since 1990. Performing organizations have included the Center for Naval Analysis, Coopers & Lybrand, the Congressional Budget Office, the General Accounting Office (which recently changed its name to the Government Accountability Office), RAND, and the Logistics Management Institute. The more influential of these will now be discussed.

Frank Camm⁷¹, a RAND Senior Economist, viewed the topic of sources of repair for defense depot maintenance by positing it as a “make” versus “buy” decision. This was essentially the first articulation of the decision set in those terms, and this description has resonated since that time. Camm argued that conditions that established what was the current public-sector and contractor split of work would most likely support the longer-term continuation of a significant amount of public-sector logistics capability in the maintenance area. The heart of his reasoning is that DoD

⁷¹ Frank Camm, *DoD Should Maintain Both Organic and Contract Sources for Depot-Level Logistics Services* (Santa Monica: RAND, 1993).

should follow much the same procedures as private firms do when they consider whether to contract a type of work. He noted that private firms retain activities in-house primarily when the uncertainty of the environment and complex technology requires close control and coordination, and when few outside firms have the required technology or process capability. He further indicated that private firms retain such activities when it is difficult to objectively measure important elements of the activity, as well as to provide a means of training managers who will oversee the work. They also retain such activities to create, albeit in-house, a competitor.

Camm articulated that all the criteria above appear to apply to DoD maintenance provision: the DoD depot maintenance environment is uncertain; the technology and repair processes are complex; many of the elements of the activity are difficult to measure objectively; there is a need to train depot maintenance managers; and, absent a public-sector maintenance capability, there may not be another source to do the work required. He concluded in his study, therefore, that the DoD should retain depot maintenance activities in the public sector even if the private sector can arguably do the work more efficiently.

The Center for Naval Analysis (CNA),⁷² around the time that Camm wrote, reviewed the public-versus-private question in the context of depot maintenance for the Navy. CNA advised that three issues are central to public-versus-private performance. A summary of the issues and associated key questions raised by CNA appear in Table 9.

Table 9. Center for Naval Analysis Summary

Issue	Key Questions
Core Issue	Is there an operational reason to keep depot maintenance provision "in-house"?
Efficiency Issue	Is commercial repair cheaper?
Industrial-Base Issue	Does placing depot repair in the private sector help protect national production capability?

⁷² John D. Kenan and others, *Issues Concerning Public and Private Provision of Depot Maintenance* (Alexandria, VA: Center for Naval Analysis, 1994).

While reviewing these key issues of control, process integration and efficiency, and market limitations in a comparable manner as Camm, CNA reached much the opposite conclusion and did not regard organizational control as a crucial matter. Referencing data from contemporary competitions of depot maintenance workloads, CNA related savings on the order of 20 to 40 percent when work is competed between the public and private sectors for depot maintenance and saw this as strong grounds to investigate private-sector depot maintenance provision. The key notion advanced is that competition itself drives organizational efficiencies for both competing parties. This conclusion endorses the use of public-versus-private competitions for a large array of military logistics practices.

Chenoweth and Abell,⁷³ two RAND researchers, studied the efficacy of private-sector repair of avionics-related items managed by the Air Force's Ogden Air Logistics Center. This inquiry concluded that private-sector repair is not responsive. The study specifically treated negotiated and actual flow days for repair and found actual days to be twice the negotiated flow days. The analysis attributed the lack of responsiveness largely to government-imposed terms and conditions under which the contractors under study provide services. Several policies appear to work against responsiveness; they are included in Table 10.

⁷³ Mary E. Chenoweth and John B. Abell, *Contractual Component Repair Policy: A Key to Improving Depot Responsiveness* (Santa Monica: RAND, 1994).

Table 10. Chenoweth and Abel Summary

- The accumulation of repairable components into batches prior to shipping rather than shipping them to the repair facility when immediately available
- Lack of synchronization between when contractual authority to repair arrived at the facility and the actual components in need of repair
- Lack of a mechanism to effectively track how long repairs actually take
- Absence of incentives to turn assets back to the government quickly, and strict prohibitions against the use of repair parts purchased in support of one contract on a different contract (items would then sit in an awaiting parts status while parts were actually available in the repair facility)

The Congressional Budget Office (CBO) published *Public and Private Roles in Maintaining Military Equipment at the Depot Level* in 1995.⁷⁴ This report advocated that moving a bigger segment of depot maintenance workload to the private sector could reduce costs while providing high-quality and responsive support to military customers. It also noted that rather than rely on the DoD's Core concept of deciding between public and private depot provision, the DoD should allocate workloads to the public, private, and potentially mixed modes of maintenance, based upon particular strengths of each mode in relation to the characteristics of the workload in question. The CBO, in keeping with its mission, did not advocate a precise course of action for carrying out the decision-making structure it proposed.

The Director for Defense Management Issues of the former General Accounting Office (now the Government Accountability Office), David Warren, has offered several statements and reports on DoD's depot maintenance provision policies. In a statement provided in 1996⁷⁵ to the House of Representatives Committee on National Security, he concluded that the DoD policy provides a framework for managing defense depot maintenance activities, indicates a clear preference for moving workload to the private sector, but is not consistent with applicable

⁷⁴ Deborah Clay-Mendez, *Public and Private Roles in Maintaining Military Equipment at the Depot Level* (Washington, D.C.: U.S. Congressional Budget Office, 1995).

⁷⁵ David R. Warren, *Privatization and the Debate Over Public-Private Mix* (Washington, D.C.: GAO, 1996).

Congressional guidance designed to encourage public-private competitions for non-Core workloads. (The FY 1996 National Defense Authorization Act, Section 311(d)5, stated that DoD policy should provide for competition of non-Core work between public and private entities when there was a potential to realize cost savings.)

Warren noted that the DoD policy asks for such competition only when there is no adequate competition among private firms alone. Warren also cautioned that GAO's review of previously held public-private competitions revealed that 67 percent were won by DoD depots and on average cost 40 percent less than the closest private-sector competitor. Also, he noted that there were no private-sector offers for nearly 25 percent of the competitions and in an additional 35 percent of the competitions there was only one private-sector competitor. Finally, he indicated that of the 240 active depot maintenance contracts that GAO examined, 182 of them had been awarded on a sole source basis.

In an additional report,⁷⁶ the GAO reviewed 71 DoD system acquisition programs in order to ascertain how DoD was approaching the source-of-repair decision and what outcome it was achieving through the existing decision structure. In this study, GAO found such a high degree of confusion as to guidance and widely disparate approaches to decision making that it suggested that the Military Service secretaries should reassess the adequacy of analysis supporting source-of-repair decisions made during the preceding two years (1996 and 1997). In addition, the report found a clear empirical shift from the historical preference for public-sector depot maintenance choices to a preference for commercial repair sources. For example, for the sample used in the report, the number of major weapon systems that used the public sector for maintenance provision moved from 75 in 1987 to 18 in 1997.

⁷⁶ David R. Warren, *Defense Depot Maintenance: DoD Shifting More Workload for New Weapon Systems to the Private Sector* (Washington, D.C.: GAO, 1998).

In more recent testimony,⁷⁷ Mr. Warren discussed the major weaknesses and challenges in the DoD's depot maintenance program. He indicated that the DoD has implemented a policy change that has placed increased reliance on defense contractors for depot maintenance, noting that contractors' share of depot maintenance funding has increased dramatically while the military depots' share of funding has declined by 6 percent during the same period. He indicated that the policy shift to the private sector has most directly affected workloads for new and upgraded systems, which are largely going to the private sector.

While the DoD is in fact implementing this policy, Warren argued that the analysis needed to determine whether this approach is the most cost-effective has not been done. In addition, he stated that weaknesses in the DoD's implementation of its policy for identifying Core maintenance capability requirements could affect future readiness and support of combat forces. Specifically, the depot maintenance Core policy does not address future requirements, and the Military Services face major challenges complying with statutory requirements regarding the allocation of depot maintenance work between the public and private sectors. In sum, he recommended a maintenance strategic plan that needs to set forth the roles that will be played by the public and private sectors. A formal call for this sort of plan was made in May 2003 in the Report of the House of Representatives Committee on Armed Services concerning the National Defense Authorization Act of Fiscal Year 2004 (House Report 108-106, May 2003).

Jonathan Leland,⁷⁸ a Center for Naval Analysis researcher, provided an additional perspective on the depot maintenance provision issue. He started with the premise that the

⁷⁷ Congress, House, Committee on Armed Services, *Defense Depot Maintenance: Sustaining Readiness Support Capabilities Requires a Comprehensive Plan: Hearing before the House Committee on Armed Services*, 108th Cong., 2nd sess., 23 March 2001.

⁷⁸ Jonathan W. Leland, *Evaluating Options for Privatization of Depot Maintenance Facilities* (Alexandria, VA: Center for Naval Analysis, 1995).

portion of depot maintenance that should be conducted by public-sector depots is fairly small and that acquiring maintenance services through market transactions would improve process flexibility, as well as reduce costs. He reviewed features of depot maintenance that would either support or impede privatization.

In the article, Leland also proposed three approaches to privatization in the depot maintenance arena. The first is to attempt to accommodate stakeholder interest by restricting the ability of managers of commercially performed maintenance to adjust capital or labor. Examples would be the creation of government-owned, contractor-operated (GOCO) facilities. The second is to break the link between efficiency and equity considerations by allowing the gaining management unrestricted use of depot maintenance capabilities after disposition and treating compensation of displaced workers as a separate issue. Finally, he recommends to attempt to reconcile interests that bear upon the privatization issue, perhaps by compensating displaced labor with proceeds of, for example, a public maintenance depot sale.

There have also been several studies in the literature on the depot maintenance provision topic that treat issues involved with decisions for provision for particular maintenance workloads. These studies highlighted some of the larger issues and most-prescient concepts that inform the maintenance provision decision.

In 1992, the Warner Robins Air Logistics Center conducted a competition for replacement of the C-141 aircraft center wing box. Three private firms and the Warner Robins Air Logistics Center itself competed for the contract. The contract was awarded to the air logistics center. Coopers & Lybrand provided a post-award review and reached the following set of conclusions.

While the Warner Robins offer was represented as a firm fixed price, it was more analogous to a cost-reimbursement offer because the government would pay the full cost one way or another; therefore, public and private bidders did not see the same risks involved in the scope of work.

Warner Robins was under considerable pressure to win and proposed labor hours and associated rates that were not supported by past experience, which would bring a great deal of criticism to a private firm. The buyer (at Warner Robins) allowed the Warner Robins seller to charge common tasks to projects other than the wing box replacement, which was a clear violation of standards.

While the competition was under way for the contract award, the air logistics center personnel took extensive training on the wing box tasks at government expense, which was not afforded to private competitors. During the actual performance of maintenance work, the air logistics center ran at a loss, and reports did not accurately reflect true program costs.

In 1997, the San Antonio Air Logistics Center at Kelly Air Force Base conducted a public-private competition for the C-5 aircraft depot maintenance workload. This work had been performed by the San Antonio Air Logistics Center, which was undergoing closure activities as a result of the 1995 Base Realignment and Closure (BRAC-95) decision. The GAO provided a post-award review to determine whether the Air Force's procedures provided equal opportunity to both public and private offerors, whether the Air Force had complied with the Federal Acquisition Regulation (FAR), and whether the award resulted in the lowest total cost to the government.⁷⁹ The GAO concluded that the Air Force had achieved positive results in all three areas. There were, however, several issues noted. First, as with the center wing box example,

⁷⁹ David R. Warren, *Public-Private Competitions: Processes Used for C-5 Aircraft Award Appear Reasonable* (Washington, D.C.: GAO, 1998).

some private-sector sources thought that there was an innate imbalance in the competition because the government would have to pay for any cost overruns if a public offeror won—whereas a private offeror would have to absorb such a loss. Second, the public-sector activity was seen as unfairly advantaged because it was allowed to show \$153 million cost avoidance by using the C-5 workload to help defray overhead costs it would have to pay as a result of related activities. In sum, GAO found that this cost advantage was the key determining feature in the competition.

In these examples, as well as in other documents related to depot maintenance provision, issues such as unfair cost advantages and the notion that government fixed-price offers actually involve much that is “unfixed” have been summarized by the term “lack of a level playing field.”⁸⁰ The studies examined have come to differing conclusions as to whether this issue is materially pertinent and, if so, how it can be addressed in an instructive manner. In general, a review of public-versus-private competitions shows that each sector has won about half of them. However, a true grasp of the cost savings or benefits from public-versus-private competitions remains hard to pin down.

Summary of Contemporary Depot Maintenance Decision-Making Institutional Literature

In summary, this review of institutional literature provides additional dimensions to an understanding of the depot maintenance provision choice. The major DoD studies, which are sponsored by the highest organizational levels within the military, clearly choose a side for depot maintenance provision. After suggesting consolidation and at least partial nurturing of public-sector depots through an identification of Core public-sector maintenance capabilities, the studies

⁸⁰ Robert N. Parker, *Report of the Defense Science Board Task Force on Depot Maintenance Management*, 2nd printing (Washington, D.C.: GPO, 1994).

advocated reliance on the private sector for depot maintenance provision across the board. The key rationale for this position is that private-sector provision is inherently less expensive and more effective, but only when assuming a competitive sourcing process.

The studies that viewed the actual factors and mechanics of the provision choice considered issues such as responsiveness and control that each sector may provide and expressed mixed results, based upon a variety of different perspectives. Actual studies of competitions between the sectors for maintenance work revealed difficulties in cost comparability and fairness.

The Congressional Budget Office (CBO) and the General Accounting Office (GAO) began to offer critiques of DoD's policies in the area beginning in 1995, just about the time the reliance upon private-sector provision was espoused by the large DoD studies. CBO advocated that DoD employ an objective approach to decisions about depot maintenance provision, one that considers the strengths of each sector based upon historical maintenance capabilities and prior investments, among other factors. This analysis, according to a several informal interviews undertaken as part of this research, was the last large-scale thoughtful and unbiased study presented on this topic.

Beginning in 1996, the GAO became concerned about the trends it saw, given DoD's reliance on the private sector in this area. It questioned DoD's ability to comply with statutory guidance on the issue, specifically the fifty-fifty and Core capability requirements. (As mentioned in Chapter Two of this study, these laws state that DoD must not apply more than 50 percent of monies in a given fiscal year for depot maintenance to the private sector and that public-sector Core maintenance capability must be established in public-sector depots for weapon systems that are in combat situations.) GAO also noted the lack of an overall DoD strategy to manage its depot maintenance business area and noted the considerable number of

contracts that were being awarded on a sole-source basis. In addition, GAO saw no evidence that DoD had achieved substantial cost savings by requiring its Military Systems Commands to favor the private sector for depot maintenance services.

Before more observations can be made about the interplay among these studies and stakeholder advocacy as it has evolved from 1990 to the present, it is necessary to examine the more general academic literature as it relates to the depot maintenance provision choice.

General Literature Related to DoD Depot Maintenance Provision Choice

Seven areas of academic literature have been located that inform choices about depot maintenance provision. Four are subsets within a larger category of economic literature. The four types of economic literature all demonstrate varying degrees of an underlying rational model, which typically represents a deductive approach to decision making. These approaches begin with goals, and policies, programs, and actions are deduced to achieve these goals. The rational approach assumes that there will either be a consensus on goals, policies, programs, and actions necessary to achieve organizational aims or that there will be some person or concentrated group with enough power or authority so that consensus does not matter.⁸¹ These four approaches, as well as three additional areas located in the literature review, are summarized in Table 11. This summary is followed by a more in-depth discussion of each area as it relates to the choice of public-versus-private roles in depot maintenance provision.

⁸¹ Bryson, *Strategic Planning for Public and Nonprofit Organizations*.

Table 11. Academic Areas and Relevance to Decision

Academic Area	Why Relevant to Depot Maintenance Provision Decision?
Classical Economic Theory (Neoclassical)	Application of market characteristics to the depot maintenance decision; including economies of scale and market failure.
Public-Choice Theory	Provides a view of political activities as markets and views interest group involvement. Gives insight into potential Congressional and depot workforce interests and dynamics.
Principal-Agent Theory	Explains the relationship of the purchaser of depot maintenance who contracts with public- and private-sector providers. It also provides insight to DoD/Congressional relationship.
Transaction-Cost Economics	Provides a description and analysis of the make-or-buy decision.
Public Administration	Addresses decision in relation to governmental mission; includes research on privatization within the public sector, as well as alternative conceptions of provision problem solving.
Strategic Management of Technology	Describes idea of competency-based theory (related to DoD Core concept). Provides insight into technology insertion methods, as well as rationales that underlie product and process design integration.
Supply Chain Management	Emphasizes that an integration of business elements, including maintenance, is necessary to effectively manage the complete demand fulfillment process—from the acquisition of raw materials to the delivery of finished products to the end user.

Neoclassical Economic Theory

Several concepts fall under the construct of neoclassical economic theory that bear upon the depot maintenance provision choice. A discussion of several key topics and their relevance to the policy choice is now discussed.

Central to the neoclassical approach is the notion of constrained choice. It is fundamentally a theory of voluntary exchange and efficient allocation of resources. In this perspective, the individual is understood as a choosing agent; someone who decides among alternative courses of action according to how he or she imagines those actions will affect him or her. This idea of human motivation translates into an unambiguous theory of individual action, in which people decide what to do according to how it will affect their levels of satisfaction and therefore make rational choices that maximize behavior. A key related notion to rational choice is that it depends on the ability of competing goods to satisfy the same desire.

In a perfect market characterized by a very large number of participants, there will be a unique price for each good that allows all transactions to take place. Such a price arises out of autonomous and purposeful actions of the individuals pursuing maximization of private satisfaction. If prices are adaptable in the sense that parties are free to pursue transactions at whatever rates they deem mutually beneficial, they will tend to reconcile at levels that allow for all welfare-improving transactions. Given these assumptions, free market processes yield a most favorable result for overall social welfare. Economists term this type of welfare the “Pareto optimum.”

Maximum social benefit and Pareto efficiency result from firms behaving as if they are under perfect competition, even if this is not the case.⁸² However, if viewed from the perspective of individual firms, it may not be in their self-interest to do so. In fact, an individual firm may be able to improve its profit position by exerting some control over price, so it becomes “rational” for the firm to do so. As many organization theorists have observed, firms will develop certain exchange relationships that are complete with norms, rules, and traditions that enable them to negotiate the environment and reduce uncertainty and establish control points where they can.⁸³ From the firm’s perspective of reducing uncertainty, the best economic position is to be a pure monopoly because a genuine monopoly means that the firm can command price.

This arrangement is termed “imperfect competition” in this theoretical approach, of which there are a number of acknowledged forms. For example, there is monopolistic competition, in which there are a moderately large number of firms producing similar, but not identical, products, monopsony (one buyer), bilateral monopoly (one buyer and one seller), and many forms of oligopsony that include varied structures in which there could be one or a small

⁸² David D. Friedman, *Price Theory* (Cincinnati: South-Western Publishing Company, 1986).

⁸³ The early classic offering of this argument appears in James D. Thompson, *Organizations in Action* (New York: McGraw-Hill, 1967).

number of large firms and much-smaller rivals. All of these imperfectly competitive arrangements can lead to distorted prices and linked behaviors. These behaviors can be perceived as harmful from society's view, although arrived at by rational economic actors in the organizational setting.

When applying these concepts to the depot maintenance provision choice, one finds some interesting applications. First, there is evidence that more than price information is needed to make depot maintenance provision choices.⁸⁴ In the discussion noted, the authors contest the postulation that the rational model and prices, even conceptually, could be sufficient to synchronize decision activity in this area. Second, as writers such as Kettl⁸⁵ have noted, meaningful competition is problematical to achieve when the government is the buyer, because the government is frequently buying custom goods for which there are an insignificant number of providers. This has been the situation for many goods related to depot maintenance. Third, given the striking consolidation of prime defense contractors since the early 1990s,⁸⁶ an effect on maintenance contract choices can be derived. Specifically, as previously discussed, the GAO in 1996 found that of 240 active depot maintenance contracts, 76 percent were awarded noncompetitively, and of those that were competed, 86 percent had four or fewer offerors. In an associated and much more substantial analysis of 15,346 depot maintenance contracts that totaled \$2.2 billion, the GAO found that a full 91 percent, worth \$1.5 billion, had been awarded noncompetitively.⁸⁷

⁸⁴ James A. Forbes, Donald W. Hutcheson, and Andrew Timko, *Choosing Between Public and Private Providers of Depot Maintenance: A Proposed New Approach* (McLean, VA: Logistics Management Institute, 1997).

⁸⁵ Donald F. Kettl, *Sharing Power: Public Governance and Private Markets* (Washington, D.C.: The Brookings Institution, 1993).

⁸⁶ David E. Cooper, *Defense Industry: Consolidation and Options for Preserving Competition* (Washington, D.C.: United States General Accounting Office, 1998).

⁸⁷ David R. Warren, *Defense Depot Maintenance: Contracting Approaches Should Address Workload Characteristics* (Washington, D.C.: GAO, 1998).

Because the DoD is also the single customer for many defense industry products, the market is monopsonistic. Given the small number of sellers, the market is also in some cases oligopsonistic and in many cases monopolistic. A justification for maintaining a public-sector depot maintenance capability suggested here is to generate what amounts to a contrived government-owned competitor. It follows that it is likely essential to consider the uniqueness of DoD depot maintenance work, the availability of sources, and interest by prospective sources when considering the depot maintenance provision choice. This is because the lack of a depot maintenance capability when needed to support a contingency situation could be catastrophic.

In the context of neoclassical economics, it is also noteworthy that public-sector depots produce repaired weapon systems and components for consumption by DoD combat forces. Therefore, DoD has an internal market when it considers public-sector depots as a provider. While this situation benefits DoD in terms of risk management, it can easily skew notions of perfect competition. As has been noted, this market is substantial in terms of overall value—and is a market, in some cases, in which DoD sells materiel to itself. As is the case in private firms, DoD uses internal transfer prices to coordinate its internal market.⁸⁸ The DoD internal market is monopolistic in that depots normally do not compete against one another, and DoD has virtually utter control over its internal prices.

Also, when treating the application of neoclassical theory to depot maintenance provision, it is illustrative to note that DoD has attempted public-private competition as a means of allocating depot maintenance workload—thus it has used the technique as a basis for depot maintenance provision choices. These results have been mixed, primarily because of varied costing practices between the two sectors. Public-private competition began in 1985 when the

⁸⁸ Don Shycoff, *The Business of Defense* (Bowie, MD: JKS Publishing Company, 1995).

DoD Appropriation Act of that year authorized the Navy to test the feasibility of competition between public and private shipyards. These competitions increased slowly through the 1993 time frame, when DoD projected a total of more than \$1.7 billion in savings by FY 1997. The key problem with these competitions, as discussed earlier in this study, is that even with cost adjustments, there was no compensation for the fact that a private company that underbids a scope of work would have to absorb the loss while a government depot could recoup its losses through higher subsequent charges. It is interesting to note that by 1994, the Army, Navy, and industry took the position that the competitions were causing more hassle than they were worth and the Defense Science Board recommended they be discontinued. However, because of Congressional interest, public-private competition is still the primary legal means by which work performed in the public sector can be moved to the private sector.

While imperfect competition has been addressed as it results in distorted prices, it can also lead to market failure. A concern that is voiced in the depot maintenance policy environment and a rationale proposed for the depot maintenance Core concept is that failure of the market to produce required repairs when the private sector has no interest in the work requires the use of public-sector depots. This situation can and has occurred when the equipment to be repaired is unique to military systems and when parts become obsolescent because of aging weapon systems. In fact, the DoD has a large problem with this issue, which it terms “diminishing manufacturing sources (DMS).”

Finally, the neoclassical economic concept of economy of scale applies to aspects of the depot maintenance provision choice. This concept refers to the situation in which large output levels generate lower average costs than do small output levels. It is typically used to discuss how technology has brought an economic effect to large-scale production; specifically, that it not

only enlarged but also cheapened the process of production.⁸⁹ These considerations are reflected in the depot maintenance policy dialogue as some argue for the need of public-sector maintenance depot capability in terms of its ability to increase output and change priorities in response to potential and inherently unpredictable needs and to bring to bear a wide spectrum of industrial repair facilities at a single site to meet these needs. This notion has intuitive appeal, but there is a large degree of present controversy over how much confidence should be applied to these concepts with regard to depot maintenance provision.

Public-Choice Theory

Public-choice theory is a sphere of economics that developed from the analysis of taxation and public spending. It emerged in the 1950s and received widespread public attention in 1986, when James Buchanan, one of its two principal architects (the other was his colleague Gordon Tullock) was awarded the Nobel Prize in economics.

Public-choice theory takes the same ideology that economists use to evaluate people's dealings in the marketplace and applies them to people's actions in collective decision making. Economists who examine behavior in the private marketplace presume that people are motivated mainly by self-interest. Although most people base some of their actions on their concern for others, the dominant motive in people's actions in the marketplace—whether they are employers, employees, or consumers—is a concern for themselves. Public-choice economists function using the same notion, asserting that although people acting in the political arena have some concern

⁸⁹ Robert Heilbroner and Lester Thurow, *Economics Explained: Everything You Need to Know About How the Economy Works and Where It Is Going* (New York: Simon & Schuster, 1994).

for others, their main motivation, whether they are voters, politicians, lobbyists, or bureaucrats, is self-interest.⁹⁰

Some of the key tenets of public-choice theory are that (1) it is costly to create interest groups; (2) existing groups have significant advantages in political markets; (3) small groups are more effective than are large groups; and (4) groups that can coerce the supply of some important good have an advantage over those groups that cannot.

The implications of these tenets are that interest group behavior can alter the political agenda and certain outcomes in favor of concentrated benefits preferred by the effective interest groups. In this arrangement, special interests generate substantial personal benefit for a small number of individuals while imposing a small (but potentially cumulatively large) individual cost on a large number of other individuals.⁹¹

Public-choice theory also posits a rejection of the idea that a public official can be dedicated to the public interest and views the bureaucrat as a rational, self-interested actor. These people, according to this framework, understand the likely responses of legislators to specific initiatives and also understand policies that their bureaus are likely to champion. They will tend to espouse initiatives that act to conceal special interest considerations from electoral scrutiny and will work to maximize their own discretionary power. Because they tend to understand organizational dynamics better than legislators, they also tend to dictate in budget negotiations, try to extract excessive appropriations from the legislature, supply excessive output, and do so in an inefficient manner.

⁹⁰ This topic is also treated comprehensively by David B. Truman, *The Governmental Process: Political Interests and Public Opinion*, 2d. ed. (San Francisco: University of California Institute of Government, 1993).

⁹¹ Charles K. Rowley, "A Public Choice and Social Choice Perspective," in *Economic Approaches to Organizations and Institutions*, ed. Pal Foss (Aldershot, England: Dartmouth Publishing Company, 1995), 63–104.

According to this approach, the legislature also operates according to similar preferences. It works to benefit some by producing benefits for small but well-organized groups of people while imposing a small individual cost on diffuse and less well-organized interests. Politicians, in this approach, cause this kind of “transfer of wealth” in exchange for campaign contributions, post-political-career benefits, and promised votes.

This theory is applicable to an examination of the depot maintenance provision choice because these decisions occur in what could be termed a “political market.” This is important in the depot maintenance context because the thrust of most Congressional action related to depot maintenance provision has been to support a dominant role for public-sector depots. Public-choice theory can potentially inform the behavior of social actors, given these circumstances, because a well-organized Congressional group often referred to as the “Depot Caucus” represents states with large proportions of public-sector depot maintenance workers.

This orientation also suggests that at least some DoD government managers might act to supply more depot maintenance than is needed and also provide it inefficiently. In similar fashion, Congress may well act in a comparable manner. There is some empirical support for such claims in the depot maintenance arena.⁹² Kiebler, for example, found that most DoD depots induct more assets into depot maintenance than are needed to satisfy requirements. In one instance, for example, he noted managers had working aircraft engines on hand that were more than seven times the requirement and continued to take even more engines into maintenance work.

Principal-Agent Theory

Principal-agent theory analyzes the dynamics between two parties engaged in a business relationship. In a basic principal-agent relationship, one party (the principal) grants another party

⁹² Kelvin K. Kiebler and others, *The Depot Repair Cycle Process: Opportunities for Business Practice Improvement* (McLean, VA: Logistics Management Institute, 1996).

(the agent) the authority to act on his or her behalf. The agent, then, is accountable to make decisions that further the interests of the principal. A potential problem with the principal-agent relationship occurs when the interests of the agent and those of the principal conflict. That is, the agent may make decisions that are not in the best interest of the principal, hence calling the dependability or reliability of the agent into question. To help address the problem, the principal typically establishes some way of monitoring the agent's activity. Key assumptions about human nature are implicit in this theory. The first is that humans are hyper rational and they can and do make decisions quickly. Second, both principal and agent are assumed to be self-interested, to act with deviousness, and to be opportunistic. Principal-agent theory offers sources for propositions about forms of governance and related decision-making arrangements.⁹³ Several of these propositions stress that principals and agents have conflicts of interest and that agents react differently to various tasks that they are obliged to accomplish.

The theory also holds that the agent may exhibit varying degrees of contribution to the desired outcome of the relationship. For example, the agent may attempt to influence the time it takes to perform a task for the principal, in order to accomplish other priorities. Also, according to the theory, there are random factors that do influence the outcomes of the relationship that neither the principal nor the agent can control. Also, the principal and the agent have asymmetrical information. While both parties observe outcomes, only the agent has better information as to his or her degree of care, ability, trustworthiness, or how he or she is trying to influence a desired outcome.

⁹³ Arie Halachmi and Kenneth L. Nichols, *Enterprise Government* (Burke, VA: Chatelaine Press, 1997).

The principal-agent framework has been used to review particular kinds of outsourcing activities and decisions related to the production activities of firms.⁹⁴ The relevance of this theory to depot maintenance provision decisions is that it informs a variety of criteria used in deciding which depot maintenance providers to choose. There are hints of this orientation in existing DoD policy, for instance, to assure a smart buyer capability, which is ostensibly geared to protect against opportunism. Also, many of the laws associated with limits on sources of depot maintenance provision can be interpreted as clear messages to the Executive Branch, given a Congressional perception of unresponsive agent behavior.

Transaction-Cost Economics

Transaction-Cost Economics (TCE) is important because it attempts to expand upon economic theory to take seriously the structure of firms. TCE attempts to account for why some transactions are directed by managers in the context of hierarchy, as opposed to taking place in an open market. TCE assumes that firms are profit maximizing, and that profit maximization involves the minimization of costs. Its key dissimilarity from other economic theories is that it emphasizes transaction costs as well as production costs. The theory envisions “production costs” as being analogous to the cost of constructing and running a model machine, while “transaction costs” are those costs that are incurred by departures from perfection, such as friction.

Departures from this ideal situation, often called “market failures,” can result in firms incurring costs when they attempt to buy or sell goods or services. For example, lack of information about alternative suppliers may lead to paying too high a price for a good. These are transaction costs. Oliver Williamson, a key theoretician in this area,⁹⁵ argues that firms want to

⁹⁴ A good example is Edwin L.-C. Lai, Raymond Riezman, and Ping Wang, *Outsourcing of Innovation* (Vanderbilt: NBER Research Project, 2003).

⁹⁵ Oliver Williamson, *The Economic Institutions of Capitalism* (New York: The Free Press, 1985).

minimize their total costs, which comprise both production and transaction costs. Under some circumstances, transaction costs may be reduced if the transaction takes place in an open market, while in other circumstances costs could be reduced if managers coordinate the transaction.

TCE specifies variables that offer a way to settle on whether “market or hierarchy” will have the lower transaction costs in various situations. The theory rests on the assumptions of bounded rationality and opportunism. “Bounded rationality” refers to the view that people have partial memories and cognitive processing power. “Opportunism” refers to the possibility that people will act in a self-interested way—“with guile,” as Williamson describes it. That is, people may not be entirely candid and straightforward about their intentions, or they might try to take advantage of unanticipated circumstances that give them the opportunity to take advantage of another party. These people are buyers and sellers, and in the context of depot maintenance, an interface exists between the buyer of depot maintenance and the seller of it, whether depot maintenance is provided under contract or through a public-sector provider.

Given these assumptions, TCE offers three dimensions or variables that are used to characterize any transaction. Transactions can be frequent or rare, have high or low uncertainty, or involve specific or nonspecific assets. These three variables will, according to the theory, determine whether transaction costs will be lower in a market or in a hierarchy.

Several studies use the TCE approach and provide evidence in the depot maintenance provision arena through a focus upon transaction costs. For example, a Coopers & Lybrand and TASC team⁹⁶ developed an empirically based estimate of the cost impact of DoD contract regulation and oversight for DoD. The study found that through an inclusion of the contractor’s compliance costs as well as the impact of regulations and oversight on the contractor’s processes,

⁹⁶ Coopers and Lybrand and TASC Project Team, *The DoD Regulatory Cost Premium: A Quantitative Assessment* [Washington D.C.: Office of the Under Secretary of Defense (Acquisition and Technology), 1994].

18 percent of the final cost of a DoD contractor's products and services could be attributed to these sources. This kind of finding points out that if the up-front costs required in the establishment of contracts and direct oversight costs were also accounted for, the transaction-cost contribution to the final product cost would probably be significantly higher. In an associated example, Kettl addressed DoD's A-76 program⁹⁷ and references a Senate statement that more than 1,700 persons during a particular time frame were assigned to DoD A-76 studies at an annual cost of approximately \$150 to \$300 million dollars—and that this cost was larger than the savings generated by the outcomes of these studies.

In the TCE framework, the materiel repaired in the depot maintenance process is largely worked on in a recurrent process. This should indicate a recurrent purchase of standard materiel and would be a nonspecific investment in which just about everything relevant to the exchange could be understood in advance, producing only slight ambiguity. An example in depot maintenance would be the purchase of aircraft landing gears that are used extensively in both military and civilian aircraft; therefore, asset specificity could be generally predictable in depot maintenance provision because systems on which the maintenance is being undertaken have a relatively stable design.

However, the specificity of production equipment would need to be coupled with the complexity of stating in advance all contingencies that could arise, as well as the need to monitor behavior and the difficulties that could be faced in finding another supplier or buyer. These circumstances all introduce the possibility of opportunistic behavior by either party. Under these

⁹⁷ The A-76 program is a competition-related process for choosing between public and private providers. In the process, the government builds a most-efficient organization for a particular scope of work and then determines the price to do that scope of business, using the organization proposed. This "bid" is then compared with prices submitted by commercial offerors for the same work scope. The depot maintenance program is exempt from A-76 competitions under Public Law 105-56 (8 October 1997) and 10 U.S.C. 2664.

conditions, it appears reasonable to institute a relationship in which one party has the license to impose decisions while the other has the obligation to obey, which suggests integration under a hierarchy for depot maintenance provision. According to this perspective, this composition is a trade-off between production costs and governance costs, as well as between the opportunity costs of being bound to an inflexible agreement with an external source and the hazards of negotiating follow-on procurements in the natural condition of bilateral monopoly when production is performed by public-sector depots.

In summary, TCE suggests a number of factors that could be of interest to those tasked with making the choice between public and private depot maintenance repair. Several of these factors are, in fact, in DoD policy.⁹⁸ The factors that appear most relevant are those that direct attention to transactions: concepts of uncertainty, frequency, and asset specificity. In particular, TCE suggests that the more correctly a repair task can be specified in advance, the easier it may be to offer appropriate performance after the work is done. These concepts seem to inform some aspects of the provision decision.

Public Administration

Paul Appleby reminded us that the work of public administrators is to make a “mesh” of things.⁹⁹ Arguing that government is broader than any other enterprise and inextricably driven by politics, the skills required of public officials extend far beyond basic management and concerns about efficiency. However, lower budgets and increased citizen service demands have put private service provision at the top of the political agenda. Issues of public and private provision choice have been addressed in the public administration literature primarily under the

⁹⁸ Office of the Secretary of Defense, *Report to Congress: Policy Regarding Performance of Depot-Level Maintenance and Repair for the Department of Defense* (Washington, D.C.: Department of Defense, 1996).

⁹⁹ Paul H. Appleby, *Government Is Different* (New York: Knopf, 1945).

umbrella topics of privatization and outsourcing. Writers have observed that this subject has often been discussed by scholars, politicians, and practitioners in an exaggerated and dogmatic manner.¹⁰⁰ Perhaps this is because the field historically addresses such decisions as being made in the name of the public and through the use of public resources and has been forced to confront very raw economic justifications and a fast-moving reliance on the private sector.

While significant philosophical questioning within the field is interesting in its own right, a literature review provides various perspectives on the choice of public and private roles in the provision of depot maintenance, but does not treat the topic specifically. Three primary trends are noticeable through the literature review: (1) there is a challenge to governmental provision of services and confusion surrounding the expected and real outcomes of provision choices; (2) recent discussions offer approaches of how to frame privatization decisions through a strategic framework; and (3) there are questions surrounding how to understand and improve the outcomes of such choices that are tied to complementary literature streams, such as the principal-agent theory.

The literature challenging the legitimacy of public provision of services and espousing private provision as a preferred alternative is extensive. It is partially driven by the antigovernment position of political campaigns and Administrations dating as far back as the Carter era¹⁰¹ and by the privatization initiatives of Margaret Thatcher and Ronald Reagan. The literature indicates a worldwide shift from collective to market approaches to service delivery, in which privatization can be defined as delegation of public duties to private organizations. In the United States, the privatization advancement can be traced back to the 1950s, when the former

¹⁰⁰ Charles T. Goodsell, "Privatization and the Public Interest" (remarks presented at the Conference on Contracting for Services, Atlanta, GA, 24 April 1986).

¹⁰¹ Gary L. Wamsley and others, *Refounding Public Administration* (Newbury Park, CA: Sage Publications, 1990).

Bureau of the Budget encouraged federal agencies to buy, through conventional business channels, products that were obtainable from private enterprise, rather than producing such goods themselves. This encouragement has been echoed very emphatically during much of the past fifty-four years.

As the provision of more governmental services moves to the private sector, there has been considerable difficulty defining roles and boundaries of the sectors with regard to provision activities. As Larkin Dudley stated, “Whether to build a good fence of precise definitions of the activities belonging to each sector or to promote more penetrable, ambiguous boundaries among the sectors reverberates through the literature and action surrounding the questions of public and private responsibilities.”¹⁰² Although the proponents of contracting have expressed a future of simpler and less expensive provision of better service, many scholars note that the growing body of evidence does not support the assumption. The nagging question raised is how to bring the concept of what is governmental into the struggle in practice—as a starting point to draw boundaries between commercial and governmental activities.

Many scholars have addressed the issue. As an example, Medicaid reform has been used as a representation of the conceptual and implementation challenges that service provision choices present. One such reform in Kansas, where the state contracted with nonprofit agencies for Medicaid case management services, is investigated in a recent article.¹⁰³ Specifically, policy rationales for Medicaid reform in light of the real economic and administrative environments are examined. The article indicates that this social-service reform presents substantially greater

¹⁰² Larkin Dudley, “Fencing in the Inherently Governmental Debate,” in *Refounding Democratic Public Administration: Modern Paradoxes, Postmodern Challenges*, eds. Gary L. Wamsley and James F. Wolf (Thousand Oaks, CA: Sage Publications, 1996): 68..

¹⁰³ Jocelyn M. Johnston and Barbara S. Romzek, “Contracting and Accountability in State Medicaid Reform: Rhetoric, Theories, and Reality,” *Public Administration Review* 59, no. 5 (September 1999): 383–399.

complexity than more traditional service contracting. The analysis shows that key aspects of the market model of contracting are absent in this reform, reflecting a disparity between the political rhetoric that surrounds the reform and the actuality of the contracting experience. The author notes that the lack of market conditions to impose control on contractors also raises questions about contract management capacity and administrative accountability.

As mentioned above, several works accept the historical difficulties and attempt to offer ideas to improve the outsourcing decision process. Steven Cohen found that whether a function should be performed within or outside government is a very broad issue that relates to personal values concerning the relationship between individual and state, as well as a complex set of managerial issues.¹⁰⁴ His article sought to develop an approach for government managers to use when deciding whether to perform the function directly in-house or to perform the function indirectly through the use of a nongovernmental organization. Interestingly, Cohen noted that privatization is a relatively new component in governmental decision making because public officials are now being asked to give good reason for direct government provision of services when private sources are available. We have seen this exact kind of request in DoD acquisition policy regarding maintenance provision.

Cohen provides an exploratory framework and a method for making such justifications and associated decisions. His method advances an organizational effort to match functions to organizational capacity. He offers a process that requires a more strategic posture, rather than a straightforward, formulaic set of tasks. He suggests that decision makers ask a number of critical questions related to risks and competitiveness and then use judgment and experience in framing particular provision decisions. His key point is that data need to be collected about operations

¹⁰⁴ Steven Cohen, "A Strategic Framework for Devolving Responsibility and Functions from Government to the Private Sector," *Public Administration Review* 61, no. 4 (July 2001): 432–440.

and that the political and social context of the program area must be well understood before making the make-or-buy decision.

Overall, his framework is presented in a set of questions that, Cohen argues, could begin a strategy formulation process. The types of questions offered by Cohen include ascertaining what the goals are of the program that is being planned as well as an assessment of the tasks that must be performed to achieve the program's goals. Cohen also suggests that an analysis be performed that focuses upon the government's current capacity to perform the tasks under consideration, as well as the measurability of the outputs and outcomes of the activities that are being sought to be commenced.

We see some of these questions addressed as issues in the current depot maintenance policy provision policy. Particularly, we notice the concern about risk and competitiveness on the part of Congress. This type of approach suggests promise and could potentially be adapted and applied in the depot maintenance provision setting.

George Avery also offered a framework for provision choice. He noted that there is a continuing effort to reform and reinvent the way public organizations do business and that the outsourcing of services has become a popular tool, particularly because resource constraints limit options available to governments. In a recent article, he suggested a process for the evaluation of an option to outsource laboratory services. Avery proposed that prior to contracting or privatizing services, the agency should evaluate the answers to several straightforward questions, some of which imply "yes or no" answers. These questions include an evaluation of the impact on the agency's Core mission, the availability, stability, and reliability of private-sector service providers, and the relative costs of internal and external service providers. Avery also suggests

that the potential impact on regulatory enforcement be assessed, as well as the organization's ability to monitor the performance of external providers.¹⁰⁵

Based on his approach, Avery argued that the ongoing internal evaluation of services offers public agencies management tools to obtain the best value for the taxpayer dollar, not only in terms of the raw cost per test but also in managing the quality of the services. The concept of "best value," which introduces issues such as stability and reliability into the provision choice equation, is powerful and is largely missing from the institutional literature that currently informs the depot maintenance provision choice.

Gerry Johnson, as an additional example, conceptualized privatization as the shift from one institutional template to another, and he drew on the related literature of institutional theory and script development to explore the interactive effects of actors' behaviors and institutional templates, or patterns of behavior that are supported by organizational routines. In so doing, he addressed specific aspects of change that privatization introduces and attempted to advance our understanding of the role of public-sector managers in the privatization process.¹⁰⁶ This type of analysis is related to studies that attempt to define the bases of organizational authority during the decision-making process and delineate the boundaries of the decision. These studies emphasize the importance of a larger domain consensus that is developed and shared by elites within and from different organizations. These individuals are often described as interface

¹⁰⁵ George Avery, "Outsourcing Public Health Laboratory Services: A Blueprint for Determining Whether to Privatize and How," *Public Administration Review* 60, no. 4 (July 2000): 330–337.

¹⁰⁶ Gerry Johnson, Stuart Smith, and Brian Codling, "Microprocesses of Institutional Change in the Context of Privatization," *Academy of Management Review* 25, no. 3 (July 2000): 572.

leaders who are able to influence the stability of consensus during the decision-making process.¹⁰⁷

Additional articles attempted to better understand and improve the provision decision, given the large push to use private-sector sources. For example, David Van Slyke noted that many states and municipalities have privatized various services in an effort to improve their cost-effectiveness and quality.¹⁰⁸ He explained that competition does provide the logical foundation for an expectation of cost savings and quality improvements, but that competition does not exist in many local marketplaces—especially in the social services, where governments contract primarily with nonprofit organizations. Van Slyke noted that as government increases its use of contracting, it simultaneously reduces its own public-management capacity, imperiling its ability to be a smart buyer of contracted goods and services. He examined two questions about the privatization of social services, based on interviews conducted with public and nonprofit managers in New York State: Does social services contracting exist in a competitive environment? Do county governments have enough public-management capacity to contract effectively for social services? He found an absence of competition and public-management capacity, raising the question of why governments contract when these conditions are not met. Many of these issues exist in the depot maintenance provision choice, only on a much larger scale.

A final example described the examination of the implementation of the 1996 Personal Responsibility and Work Opportunity Act in the state of Mississippi, in terms of the adequacy of

¹⁰⁷ Philip S. Kronenberg, “Micropolitics and Public Planning: A Comparative Study of the Interorganizational Politics of Planning” (Ph.D. diss., University of Pittsburgh, 1968).

¹⁰⁸ David M. Van Slyke, “The Mythology of Privatization in Contracting for Social Services,” *Public Administration Review* 63, no. 3 (May 2003): 296–315.

traditional two-actor principal-agent theory.¹⁰⁹ Using this lens, it was suggested that the choices made by Mississippi in the area of welfare reform to privatize much of the work and to add several layers to the existing principal-agent relationship substantially reduced accountability and the effectiveness of the monitoring systems. The article concluded that not only that traditional principal-agent theory is an insufficient tool for understanding the complex interrelationship between democratic actors in this particular case but also that the decisions of the state of Mississippi to complicate the principal-actor relationship through privatization undermined the reform effort itself in ways that may have general implications for other like-minded efforts in other policy areas.

In summary, the literature within public administration does not treat the depot maintenance provision decision specifically, but it is rich in various instructive ways. Most important, it provides insight into the problems associated with provision decisions and offers constructive frameworks to improve the decision process, given the unique setting of political decision making. Implicit in these frameworks are notions that question the linear and purely rational theory of decision making and suggest that government decision making is situated in conflict and is often resolved through collations and power relationships. These orientations hold a different view of power than is offered in public-choice theory because they assume that competing individual interests can be combined into a single, overarching organizational goal.

Strategic Management of Technology

A number of insights in the literature on the strategic management of technology relate to the depot maintenance provision decision. Overall, this literature stream combines economic and strategic perspectives to address issues of organizational management. In terms of depot maintenance

¹⁰⁹ David A. Breaux and others, "Welfare Reform, Mississippi Style: Temporary Assistance for Needy Families and the Search for Accountability," *Public Administration Review* 62, no. 1 (January 2002): 92–103.

provision, it addresses whether and how the maintenance provision choice can alter how technology is updated and inserted into weapon systems and how this decision might drive product design choices and subsequent equipment upgrade processes or methods. The literature also addresses the concept of Core competencies, which was initially suggested by James D. Thompson in his concept of a technical Core of the organization.¹¹⁰ Notions of what could be considered “core” in terms of either a sector or weapon system evaluation approach are important to issues that bear upon depot maintenance provision choices.

A much more recent example of this concept of “core” in use is *Competing for the Future*,¹¹¹ in which Prahalad and Hamel advanced the central idea that over time, companies may develop key areas of expertise that are distinctive to that company and critical to the company’s long-term growth.

These areas of expertise could be in any area, but are most likely to develop in critical areas of the company where the most value is added to its products. These areas of expertise are called “Core competencies” and are not viewed as being fixed, but should be managed and developed in a fashion that embraces changes in response to the company’s environment. In sum, Core competencies should enable the creation of products and services, deliver fundamental customer benefit, and be competitively unique. Prahalad and Hamel identify three factors to help recognize Core competencies in any business (1) provide potential access to a wide variety of markets; (2) make a significant contribution to the perceived customer benefits of the end product; (3) must be difficult for competitors to imitate.

Thus, an organization’s Core competencies reflect what it knows and is able to do. The DoD definition of depot maintenance Core, which emphasizes a capability to maintain within

¹¹⁰ Thompson, *Organizations in Action*.

¹¹¹ C. K. Prahalad and G. Hamel, *Competing for the Future* (Boston: Harvard Business School Press, 1996).

public-sector depot maintenance skills, is consistent with this basic idea that Core competencies relate to unique or difficult-to-imitate capabilities. However, the consensus within DoD regarding the validity of this definition or its correct interpretation must be questioned, given current policy in the area.

A contemporary article in this area of literature that addressed this topic reviewed the efficacy of make-or-buy decisions.¹¹² The paper investigated how firms' decisions to outsource or internalize production affect their technological performance. It noted that while several popular arguments and some anecdotal evidence suggest a direct association between outsourcing and technological performance, the effects of firms' governance decisions are likely to be contingent upon several specific attributes that underlie a given exchange.

The paper first demonstrated how standard performance models can improperly suggest a positive relationship between firms' outsourcing decisions and their technological performance. Models that account for firm- and transaction-specific features are then presented, which indicate that neither outsourcing nor internalization per se result in superior performance; rather, a firm's technological performance is contingent upon the alignment between firms' governance decisions and the degree of contractual hazards.

Supply Chain Management

This area of literature originates in the private sector and addresses challenges to reduce product development time, improve quality, and reduce lead times. It argues that changes are not effective when made to specific organizational entities, but depend upon relationships and interdependencies among different organizations. In this scenario, depot maintenance must be

¹¹² Michael J. Leiblein, Jeffrey J. Reuer, and Frederic Dalsace, "Do Make or Buy Decisions Matter? The Influence of Organizational Governance on Technological Performance," *Strategic Management Journal* 23, no. 9 (September 2002): 817–833.

seen as tied to the supply chain in which it operates. This supply chain is an integration of elements that include entities, transactions, and actions that meet a customer's needs. Supply chain management is the management and control of this myriad of processes.¹¹³

The importance of viewing and improving government management from a supply chain perspective is a current and popular notion.¹¹⁴ The focus in this area is upon integrating formerly segmented organizations and groups and addressing cultural barriers that often involve fear of change, lack of perceived urgency, and legal and statutory barriers.

In order to address these problems, this literature recommends the development of a strategy for managing the resources that go toward meeting customer demand for products and services. It suggests that such a strategy should involve several points, including development of leadership priority to manage in an integrated fashion and engendering trust, both internal and external to an organization.

Summary of Academic Literature Related to the DoD Depot Maintenance Provision Choice

In summary, no single area of academic literature provides an adequate basis for examining and improving the depot-level maintenance provision decision in its unique public-sector decision-making structure. The literature does provide a satisfactory characterization of outsourcing or privatization decisions and some of the behaviors that inform them, but these studies tend to be narrowly focused and ultimately provide little help as a source of understanding the complexity of the depot maintenance choice for the military or for informing improvements of it.

¹¹³ Mike Green, *Starting a Supply Chain Revolution* (New York: Cap Gemini Ernst & Young, 2001).

¹¹⁴ Jacques S. Gansler and Robert E. Luby, Jr., eds., *Transforming Government Supply Chain Management* (Lanham, MD: Rowan and Littlefield Publishers, 2004).

The economic literature reviewed addresses aspects of the depot maintenance provision choice that make it problematic from a purely economic perspective. Issues such as the inadequacy of price information, lack of providers, single customers for goods, and a controlled internal market make the choice problematic to inform through this perspective, although some of the theory does offer some explanations of how to reduce transaction costs when considering various options for provision of the service. The concept of market failure is of interest here, because much of DoD's equipment is so old that private firms would see no value in providing services to repair it at a reasonable price. This risk has been acknowledged by DoD and Congress and can be seen in the Department's Core policy and related legislation. Also, the concept of owning the means of production, which the government does in the case of the public-sector depots, contributes to the notion that it has a source of repair that it can essentially force to respond to combat-based maintenance contingencies without the need to contract.

In the context of economic arguments, it is also worthy to note that the industrial bases relevant to designing, building, and supporting weapon systems are typically quite separate. Preserving any one of these does little to preserve the skills and assets relevant to providing one of the others; each, in practice, is reasonably autonomous. The exception is when remanufacturing (i.e., overhaul work) occurs on the same manufacturing line as the original equipment manufacture. This is a highly unusual occurrence because maintenance workload requirements normally occur much later in a system's life cycle, a time when the original line established to make the original equipment no longer exists. So the industry argument that giving them additional depot maintenance support work will help them preserve industrial capability is usually specious. Rather, in the case of private-sector depots, additional maintenance support workload mainly helps them preserve the value of their stock and, consequently, the wealth of

their stockholders. In this respect, it is useful to separate the well-being of stockholders from the well-being of the nation associated with preserving unique defense design, manufacturing, or support capabilities.

The economic literature reviewed in the public-choice area is also instructive in similar fashion because it addresses group behavior in political contexts. The behavior of organized groups that work to shape the context and focus of decisions about depot maintenance provision provides a powerful lens to help view and understand the topic.

Finally, the public administration and the strategic and supply chain areas of the literature are perhaps most instructive because they emphasize a practical understanding of the dimensions that frame the decisions (like a lack of pure market conditions and strong political and social contexts) and aim to treat the specific provision choice according to the strengths offered by each prescriptive provider. This understanding, they argue, needs to be treated in the context of larger dimensions that often define a unique political decision-making context, as well as the ultimate user of the service being provided. This kind of approach is very similar to that advocated by the Congressional Budget Office in 1995 and appears to be most instructive as a way to both understand the dimensions of choice and to contemplate organizational methods that could address and improve dimensions of the choice.

Historical Stakeholder Analysis

To this point, Chapter Three has reviewed studies and academic research areas that relate to decisions about depot maintenance provision for the DoD. The chapter now moves to an historical narrative that puts these documents, as well as the stakeholders that influence depot maintenance provision, in an institutional context and framework for analysis. This history is important to understand because it has shaped the formal and official policy setting for depot

maintenance provision that was described in Chapter Two. A summary of stakeholder positions that influence the current decision-making framework in particular ways, which is derived from the historical account, is provided. This stakeholder summary establishes the basis to make some tentative observations and suggestions about the current decision-making framework and how it might be improved from a policy network perspective.

The account of the history that provides the basis for the summary of stakeholder positions is based upon extensive document analysis and field research, which has been described early in this analysis; in the Research Approach section of Chapter One of the document.

In order to guide the focus of my account of the history of the depot maintenance provision policy subsystem, as well as the current decision-making framework, I relied upon key principles and hypotheses offered by Sabatier and Jenkins-Smith's Advocacy Coalition Framework (ACF). I also applied aspects of this approach to provide a theoretical basis for prospective advocacy I ultimately offer to potentially improve the performance of the subsystem in its decision-making dimensions. Prior to the account of the history, I summarize the ACF and its key principles and hypotheses.

It is important to note that frameworks such as the ACF help bound inquiry and direct attentions to critical features of the policy landscape. Frameworks provide a scope for inquiry by specifying classes of variables and general relationships among them, as well as how these general classes of variables operate together in a coherent structure. Thus, the ACF helped me to organize my inquiry and sense of history that shapes the current decision-making framework for depot maintenance provision, but the framework cannot, and nor do I claim, to be able to provide predictions of behavior and outcomes based upon my analysis. However, I do believe that the policy network orientation that the ACF espouses, coupled with the historical account I have

created, provides an effective and original baseline through which to understand, critique, and potentially improve decision making in this area.

The Advocacy Coalition Framework (ACF)

The ACF is a conceptual framework developed by Sabatier and Jenkins-Smith to deal with policy problems and decision situations that are characterized by high levels of normative conflict and technical uncertainty, as well as large numbers of intergovernmental actors. The ACF views policy change over time as predominantly the consequence of competition among advocacy coalitions within a policy subsystem. An advocacy coalition, according to the framework, consists of groups who share a set of basic beliefs (to include policy goals as well as critical perceptions of causal relationships) and engage in some degree of coordinated behavior in an effort to make governmental decisions more consistent with those beliefs.

In the ACF approach, conflict among coalitions can be mediated by policy brokers, who are actors more concerned with fashioning an acceptable compromise than with achieving specific policy goals. While the framework focuses upon competition among coalitions within the subsystem, change external to the subsystem (such as changes in socio-economic conditions) as well as more stable system parameters (such as constitutional roles) also play an important role in policy development and decision-making arrangements.

The belief systems of advocacy coalitions are assumed to be hierarchically organized. At the broadest level, the “deep core” of a coalition’s belief system consists of fundamental normative beliefs. Within a given policy subsystem, however, it is the “policy core” and the “secondary aspects” that are most critical. The former consists of basic positions, some of them purely normative, while others are a mixture of normative and empirical that operates across most or all of the policy subsystem, such as depot maintenance provision policy. According to

the framework, these policy core positions are extremely opposed to change, are only sporadically the subject of policy debate, and are usually changes as a result of perturbations external to the subsystem, although long-term enlightenment may also play a role. Scientific insights about a policy matter play an important role in the secondary aspects of coalitions' belief systems, as these involve disputes over the seriousness of a problem or the relative importance of various causal factors in the evaluation of various programs and institutions and specific policy preferences.

Sabatier and Jenkins-Smith offer six fundamental principles of the ACF¹¹⁵:

1. Reliance upon the policy subsystem as the principal aggregate unit of analysis.
2. A model of the individual based upon (a) the possibility of complex goal structures and (b) information-processing capabilities that are limited, and most important, involve perceptual filters.
3. Concern with policy-oriented learning as an important source of policy change, particularly in secondary aspects.
4. The concept of advocacy coalitions as a means of aggregating large numbers of actors from different institutions at multiple levels of government into manageable units.
5. Conceptualizing both belief systems and public policies as sets of goals, perceptions of problems and their causes, and policy preferences that are organized in multiple tiers.

¹¹⁵ Paul A. Sabatier (ed) *Theories of the Policy Process*. Westview Press, 1999.

6. Coalitions that seek to manipulate governmental and other institutions to alter people's behavior and problem conditions in an effort to realize the coalition's belief system.

The ACF also offers nine hypotheses in three categories, (1) those concerning advocacy coalition; (2) those concerning policy change, and; (3) those concerning learning across coalitions.

Hypotheses Concerning Advocacy Coalitions

Hypothesis 1/Coalition Hypotheses 1: On major controversies within a policy subsystem when policy core beliefs are in dispute, the lineup of allies and opponents tends to be rather stable over periods of a decade or so.

Hypothesis 2/Coalition Hypothesis 2: Actors within an advocacy coalition will show substantial consensus on issues pertaining to the policy core, although less so on secondary aspects.

Hypothesis 3/Coalition Hypothesis 3: An actor (or coalition) will give up secondary aspects of his or her (its) belief system before acknowledging weaknesses in the policy core.

Hypotheses Concerning Policy Change

Hypothesis 4/Policy Change Hypotheses 1: The policy core attributes of a governmental program in a specific jurisdiction will not be significantly revised as long as the subsystem advocacy coalition that instituted the program remains in power within that jurisdiction—except when the change is imposed by a hierarchically superior jurisdiction.

Hypothesis 5/Policy Change Hypothesis 2: The policy core attributes of a governmental action program are unlikely to be changed in the absence of significant perturbations external to the subsystem, i.e., changes in socio-economic conditions, public opinion, system-wide governing coalitions, or policy outputs from other subsystems.

Hypotheses Concerning Learning Across Coalitions

Hypothesis 6/Learning Hypothesis 1: Policy-oriented learning across belief systems is most likely when there is an intermediate level of informed conflict between the two coalitions. This requires that

- a) Each have the technical resources to engage in such a debate.
- b) The conflict be between secondary aspects of one belief system and core elements of the other or, alternatively, between secondary aspects of the two belief systems.

Hypothesis 7/Learning Hypothesis 2: Problems for which accepted quantitative data and theory exist are more conducive to policy-oriented learning across belief systems than those in which data and theory are generally qualitative, quite subjective, or altogether lacking.

Hypothesis 8/Learning Hypotheses 3: Problems involving natural systems are more conducive to policy-oriented learning across belief systems than those involving purely social or political systems because, in the former, many of the critical variables are not themselves active strategists and because controlled experimentation is more feasible.

Hypothesis 9/Learning Hypothesis 4: Policy-oriented learning across belief systems is most likely when a forum exists that is

- a) Prestigious enough to force professionals from different coalitions to participate and
- b) Dominated by professional norms.

These ACF principles and hypotheses provide a theoretical backdrop for the historical account that is now offered. Several of these ideas will also inform the assessment of the history in relation to the current depot maintenance decision-making framework in Chapter Four. The period covered in the historical account is roughly a fourteen year period, which is consistent with the ACF's focal point that a policy subsystem be studied over at least a ten year period as a unit of analysis.

National Policy Debate

From 1990 to the present, a debate has taken place between Congress and the DoD over who should perform depot maintenance work and where it should be performed. This debate has taken various directions and has shaped how choices about depot maintenance provision are made.

Central to this debate are the DoD's efforts to rely more on the private sector for depot maintenance and federal laws that (1) limit private-sector depot workloads to 50 percent of available funding in a fiscal year, (2) require the government to create and maintain certain Core depot maintenance capabilities in public-sector depots, and (3) require public-private competitions for certain workloads. Evidence as to the tenor of the debate is widespread, and it

has been rancorous at times. A private-sector maintenance executive called depot maintenance “the defense equivalent of the abortion issue.” As will be suggested by the end of this chapter, the character of the debate and the decision framework that has resulted could certainly be improved and should focus more upon military effectiveness as a starting point.

An appreciation of the topic opens with the assumption that federal statute, as promulgated and approved by the people’s representatives in the Congress and signed into law by the President, is national policy. Congress’s constitutional role under Article I, Section 8, is to establish policy for support of the U.S. Armed Forces, which includes depot-level maintenance. Through a series of Armed Services Committee votes on National Defense Authorization Acts (NDAAs) over the past 14 years, the Congress has heavily influenced choices about depot maintenance provision by ensuring the public depots’ continued existence and at least half the share of annual depot maintenance funding. By taking these legislative actions, Congress has continually affirmed that it is disposed to bear the cost of supporting a public-sector depot maintenance capability for the DoD.

Congressional support for the public-sector maintenance depots has been managed by the House Depot Caucus, which has effectively marshaled depot-related issues that have come to the House floor. The Caucus has been guided by an executive committee of mostly House Armed Services Committee (HASC) members supported by their military legislative assistants, who have drafted most of the depot-related legislation considered by Congress during the past 14 years. For instance, interviews conducted during this study indicate that all of the depot maintenance core-related Title 10 legislation (U.S.C. 2460 and 2464) was drafted by the House Depot Caucus.

The Caucus’s strength has been its unanimity in the face of opposition from those who advocate lessening the legal protections for public-sector maintenance depots found in Title 10

and the group's virtual lock on the HASC's Readiness Subcommittee, where depot budget provisions are initially considered. Informal interview results indicate that the historical strategy of the Caucus has amounted to resolving issues at the Readiness Subcommittee level in order that they become part of the chairman's mark that moves up to the full Committee, where depot maintenance provisions are virtually invisible to the larger body. As a result, the legislation crafted by the Caucus has rarely become an issue when the annual defense authorization bill moves on the House floor, where the Caucus has never lost a vote.

Aggressive House Depot Caucus activity had not historically characterized Congressional approaches to defense depot maintenance issues. For instance, for many years preceding 1990, the Congress was joined in its support of the public-sector maintenance depots by national military leaders, including consecutive Military Service Secretaries. These officials described the public-sector depots as "national treasures" in which reside distinctive workforce skills and maintenance capabilities that are vital to combat support and could not be found in the private sector. For example, a former Director of Fleet Maintenance for the U.S. Atlantic Fleet is attributed with the comment: "we count on them, bank on them, invest in them, and dump on them our worst problems."

These public depots were needed to maintain excess capacity in peacetime in order to accommodate the expected surge in depot maintenance and repairs that would occur during a prolonged, land-based conflict against a well-armed enemy. The military planned for maintenance requirements based upon supporting a heavily armored, slow-moving land force

that was needed to deter a Soviet invasion from northern Europe or a conventional strike from North Korea.¹¹⁶

Using this planning approach, DoD used its public maintenance depots for a “ready and controlled” source of maintenance for equipment fundamental to combat missions. In this arrangement, the public depots were required in order to protect against the risk that contractors might be either unwilling or unable to take action without delay to address DoD’s maintenance requirements during a war. Because the military considered it generally to be too risky to rely on the private sector to provide depot-level maintenance for most mission-essential equipment, the relative costs of public and private maintenance provision had historically received minor consideration.

The DoD leadership perspective on this issue changed significantly, beginning in the early 1990s. While serving Secretaries of Defense have never overtly called for disestablishment of the public-sector depots, their policies and the initiatives they have sponsored indicate that their support for the public-sector maintenance depot establishment has generally decreased.

With force structure reductions and less money being allocated for new procurements, private-sector depot maintenance activities began to seek a bigger portion of depot maintenance work. Various DoD officials and advisory panels responded to this interest and called for contracting with the private sector for a greater proportion of depot maintenance work. This call was based upon claims that the private sector could provide depot maintenance services cheaper and more efficiently than public-sector sources. For example, the May 1995 report by the Commission on Roles and Missions concluded that outsourcing or privatization was the best

¹¹⁶ Plans to address troop movements that reflect a change in this orientation are just presently being publicly discussed by President George W. Bush. The current proposed plan is to move approximately 70,000 troops from Europe and Asia to American military bases.

method to sustain existing and imminent requirements for depot maintenance. The Defense Science Board, in a succession of analyses, also recommended enhanced reliance on the private sector and suggested that DoD should increase its use of contractor logistics support for all fielded weapon systems.

Presently, DoD seeks to expand the market for long-term contractor logistics support to all categories of new and upgraded systems. This perspective has coincided with a tendency for acquisition program managers within the Military Services to assume greater responsibility in the decision-making process for determining how weapon systems will be supported through their life cycles, including decisions about depot maintenance provision. As has been discussed in Chapter Two, DoD has also formalized its policy predilection for private-sector support for depot maintenance provision in regulations that govern the acquisition of major weapon systems.

While various explanations could be offered for this change in approach, the historical review that will now be presented suggests that in the time frame that begins roughly in 1990 and ends in 1995, OSD's political leadership became frustrated with various methods that were used, and often Congressionally mandated, to ostensibly better manage and generate cost savings within the public-sector maintenance depots. From 1996 forward, then, OSD, particularly through its political leadership, strongly advocated a preference for the private sector for depot maintenance provision after the outcomes of the Base Realignment and Closure (BRAC) process continually shrank public-sector depot maintenance capabilities.

Starting in 1996, OSD also began a pattern of not addressing Congressional calls for indications of comprehensive management of its depot maintenance enterprise and continually generated proposals for relief from legislative requirements on depot maintenance provision,

which were, from Congress's perspective, not supported by comprehensive approaches. This happened after Congress provided an opportunity for DoD to provide such an approach.

The various efforts that began about 1990 that ultimately frustrated OSD leadership and did not produce anticipated results through 1995 were (1) the Defense Management Review Decision process, (2) proposed attempts to restructure and consolidate the public-sector depot maintenance infrastructure, and (3) public-versus-private competitions. The organizational dynamics that help explain why these circumstances occurred and interrelationships with the BRAC process will be offered.

The discussion will then move to consider the time period from 1996 to the present and display how overall stakeholder positions have formed as a result of this history. These perspectives shape the present decision-making framework for depot maintenance provision. At the end of this chapter, the perspectives that are derived will be assessed in terms of various hypotheses offered by the Advocacy Coalition Framework. The history presented is arranged chronologically. A summary will be provided for each portion of history.

The Defense Management Reviews

In 1989, the Defense Management Review (DMR) process was introduced as part of various national security assessments designed to improve management procedures and efficiencies within the DoD. The DMR process represented one of the first formal efforts to realize peace dividend savings within the organization. As the Cold War ended, this process was undertaken and resulted in a number of Defense Management Review Decisions (DMRDs). Each of the DMRDs was given a particular number, and DMRDs 908 and 909 significantly affected issues regarding depot maintenance provision.

In December 1989, DMRD 908 recommended consolidation of the Army, Navy, and Air Force aviation depot maintenance organizations under the Air Force. The intention of this decision was to attain reductions in overhead costs and to close unnecessary facilities, as well as to reduce military expenditures by \$1 billion between fiscal years (FYs) 1991 and 1995. DMRD 909 recommended consolidation of all ship and watercraft depot maintenance organizations under the Navy, and all other nonaircraft depot maintenance under the Army. DMRD 909 also proposed closing two Naval shipyards. Its objective was to realize cost reductions by an increased focus on competition, maintenance depot closures, and workload shifts. At this time, DoD included a savings estimation that would potentially result from such actions: \$8.8 billion.

In reaction to these decisions, diverse opinions were voiced by the Military Services. For example, the Army agreed with the consolidations, which amounted to a “single-manager concept” that would segregate types of repair to individual Military Services. The Army also wanted responsibility for rotary-wing aircraft repair. The Navy did not agree with the single-manager concept and did not want to manage Army watercraft. Given these positions, as well as others, DMRD 909 recommendations were eventually delayed. DMRD 908 and 909 were subsequently combined into DMRD 908/C, which was not addressed until the latter part of 1990.

By February 1990, the Navy offered several options for addressing the contents of DMRD 909. It proposed to (1) establish a single manager for shipyard maintenance, (2) close two shipyards, and (3) downsize eight shipyards. In consideration of the Navy’s previous experience with closing shipyards and the unique depot maintenance capabilities of Naval shipyards, option (3) was adopted. The Navy position estimated \$922 million savings through streamlining and consolidation. Later in February, the Vice Chief of Naval Operations (VCNO)

directed a review of the Navy's overall logistics support infrastructure (including depot maintenance) with a view toward downsizing for anticipated force reductions. Before this review was completed, the Defense Base Realignment and Closure Act of 1990 (BRAC 90) became law and actions were directed in all Military Services toward compliance with the Act.

Numerous other reviews were undertaken within the Military Services to address topics mentioned in the DMRD decisions. As a result of one such report, entitled the Defense Management Review Maintenance Depot Consolidation Study Report, the Deputy Secretary of Defense (DEPSECDEF) issued policy for strengthening public-sector depot maintenance activities in June 1990. He assigned the Assistant Secretary of Defense (Production and Logistics) [ASD(P&L)]¹¹⁷ to oversee implementation of near-term and long-range plans for increased depot maintenance efficiencies. The near-term plan (which was to cover FYs 1991–1995 and yield savings of \$1.7 billion) emphasized workload consolidation at the Naval Aviation Depots (NADEPs) and a restructuring of Naval shipyards to better match workloads. Long-term efforts included plans to pursue interservicing (which involves a mixture of Military Service capabilities to meet maintenance needs), optimal utilization of depot capacity, and increased competition.

This DEPSECDEF call for planning is consistent with the results of what amounts to the final Military Service DMRD negotiations with ASD(P&L), which included no mandated depot closures, no single manager, and an inclusion of recognition of an additional \$2.2 billion in savings related to the improvement efforts that had been offered

In summary, the DMRD negotiations and their results were interesting for several reasons. First, they involved very senior OSD policy officials who were overseeing efforts to

¹¹⁷ This position is currently the Deputy Undersecretary of Defense (Logistics), who is the chief logistics advisor within the U.S. Office of the Secretary of Defense.

look within the DoD to support improved public-sector depot management. Second, while this high-level OSD leadership was important, the power of the Military Services is worthy of note. In the negotiations, the Services generally fought for and retained control of public-sector depot maintenance to support their individual force structure. While they did agree to downsize through workload consolidation and competition, the savings the Services offered were mostly to be realized in the long term. Third, one notices the beginning of a technique that is used throughout the 1990s within DoD to take “projected savings” out of organizations and then make management adjustments to accommodate such reductions. Finally, the Military Services also recognized the potential of future base closures, one of which was just over the horizon.

Restructuring Alternatives, Base Realignment and Closure, and Congressional Interest

The Defense Base Realignment and Closure Act of 1990 was signed into law in November of that year. The law provided for three two-year cycles for identification of base realignment and closure candidates; the scope of the Act was FYs 1991/1993/1995. The Act established a nonpartisan Defense Base Realignment and Closure Commission that was to submit closure candidates to the President for approval. Commonly called “BRAC”, the Act required the Military Services to nominate closure candidates through separate analyses and processes. The Defense Depot Management Council (DDMC) was also officially established by DEPSECDEF under Title 10 of the United States Code in November 1990. The DDMC was chaired by ASD (P&L) and was established to oversee the implementation of the near- and long-term reductions and plans that were under development related to depot maintenance provision.

DDMC initiatives attempted to guide the restructuring and streamlining of depot maintenance operations. A series of Joint-Service study groups were chartered to review eighteen specific commodity areas (fixed-wing aircraft, ground communications and electronics, etc.) and to

identify potential areas for savings through coordinated Military Service actions. In January 1991, the aforementioned DMRD 908/C recommended increasing competition for depot maintenance work to 20 percent by FY 1997.

Recommendations for base closure were approved by the President in September 1991.

The following public-sector maintenance depots were on the BRAC-1991 (BRAC-91) closure list:

- Philadelphia Naval Shipyard
- Hunters Point Annex (previously a part of Mare Island Naval Shipyard)
- Sacramento Army Depot
- Letterkenny Army Depot
- Mainz (Germany) Army Depot

As a result of this round of closures, no public-sector aviation depots were nominated for closure. Congressional reaction was not positive overall. Immediately after the announcement, Senator Arlen Specter of Pennsylvania filed a lawsuit against the Navy in an effort to stop the closure of Philadelphia Naval Shipyard. This action signaled the beginning of much more energetic Congressional interest in the depot maintenance area than had previously existed, which continues to the present time.

Additional formal legislative action occurred in November 1991. The FY 1992 Authorization Conference Report required the Army and the Air Force to apply not less than 60 percent of depot maintenance funds towards employees of DoD. In the following year's Authorization Act, this was expanded to include the Navy. The status of the sixty-forty split requirement was to be reported to Congress annually by OSD. In addition, Congress established a \$3 million ceiling on changing performance location from public-sector depots to the private sector without competition.

The DDMC study groups finished their analyses, and the results provided the basis for a Joint Corporate Business Plan (CBP) in December 1991. This document provided a road map of how the Military Services could jointly manage the depot maintenance structure of the future. The Joint Policy Coordinating Group on Depot Maintenance (JPCG-DM) established the Joint Performance Measurement Group (JPMG) to develop and implement a performance measurement system for the Military Services' maintenance depots.

In August 1992, the Joint Chiefs of Staff (JCS) directed the Depot Maintenance Consolidation Study (commonly called the "Went Study")¹¹⁸ to review the existing depot maintenance structure and provide alternatives for reducing costs and duplication while continuing to support combat readiness. Final recommendations to the JCS were issued in January 1993. During the same month, the Air Force Secretary formally transmitted to the SECDEF a proposal for consolidation of depot-level maintenance which requested that the Navy be responsible for all ship maintenance, the Air Force for aircraft, space, and large-missile depot activity, and the Army for all ground vehicles.

The Navy strongly challenged the Air Force proposal and its supporting data. It affirmed its commitment to the ongoing "Went Study," which it considered a nonpartisan review of capacity and utilization.

The Air Force proposal was not well received within OSD. In December 1992, the DEPSECDEF directed the Military Service Secretaries, in coordination with the Chairman, JCS, and the Under Secretary of Defense (Acquisition), to prepare integrated proposals to streamline defense depots for consideration during the pending BRAC-93 negotiations. In effect, he directed a "joint BRAC" review for the DoD.

¹¹⁸ Went, *Depot Maintenance Consolidation Study*.

Military Service Secretaries responded the following month through a joint memorandum to the DEPSECDEF that identified substantial public-sector depot capacity reduction opportunities and excess capacity of seven to eight equivalent depots. This excess capacity, the memorandum indicated, was being addressed by each Service's BRAC-93 process. The memorandum also indicated that after BRAC 93, the Military Services would work together on management issues and competition in preparation for the round of base closure reviews that would occur in support of BRAC 95. The memorandum was signed by the Army, Navy, and Air Force Secretaries.

Also in January, the final report on Depot Maintenance Consolidation (the "Went Study")¹¹⁹ was provided to the Chairman, JCS. The study concluded that the existing public-sector depot maintenance structure in DoD had not resulted in substantial competition and that continuation of the status quo would not result in any significant change. It further concluded that DoD has significant duplication in this area and 25–50 percent excess capacity. The study argued that reduction of this excess/duplication could result in long-term savings of between \$2 billion and \$9 billion over ten years. The report recommended increased consolidations and the establishment of a unified command for depot maintenance decision making, a Joint Depot Maintenance Command under the authority of the JCS.

In the same month, JCS Chairman Colin Powell expressed concern in a memorandum to SECDEF that the Services' efforts in support of a realistic joint BRAC 93 fell short of expectations. He stated that the seven-to-eight depot equivalents that the Services identified as excess was consistent with the "Went Study," but was significantly less than expected.

¹¹⁹ Ibid.

In February 1993, Chairman Powell issued the Report on the Roles, Missions, and Functions of the Armed Forces of the United States. The report relied extensively on the “Went Study.” The recommendation regarding depot maintenance was to consider establishing a Joint Depot Maintenance Command to reduce and restructure depot-level maintenance by 25–50 percent. The report further recommended examining the closure of seven or eight of the thirty depots (using the BRAC process), thereby achieving an estimated savings of \$400 million to \$600 million annually after closure actions.

In summary, several dynamics are worthy of note in early 1993. The first major BRAC results were made, and this angered some members of Congress. Although base closures are appropriate overall from the body’s perspective, individual bases are in particular districts and states. A pattern of Congressional concern and intervention for public-sector depots that can be traced to jobs and votes began.¹²⁰ Congress formalized what amounts to a legal cap on how much depot maintenance work can go to the private sector. This move, interestingly, was offered in response to a process that was designed to shrink excess public-sector depot maintenance infrastructure. OSD, through use of a high-level council, the DDMC, continued to attempt to organize public-sector depot maintenance management improvements by focusing upon a joint or cooperative approach.

The Military Services began to jostle about depot maintenance roles, but admitted to overall excesses in public-sector depot capacity and agreed to work together in preparation for the next BRAC round. Perhaps most important, an independent, but OSD-sponsored report was

¹²⁰ Political issues related to depot maintenance nearly halted the 1995 BRAC round. President Clinton proposed the privatization in place of the workloads of two Air Force air logistics centers (ALCs) slated for closure. Accused of politicizing the theoretically nonpolitical BRAC process to garner votes in California and Texas, where the closing ALCs were located, Clinton proposed to deny the three remaining ALCs the workload that would transfer from the two proposed for closure. Because the goals of base closure are to reduce excess capacity and increase efficiencies, Clinton’s plan would have done neither for the three remaining ALCs.

highly critical of the public-sector depot maintenance infrastructure and recommended a joint approach to management and sourcing of depot maintenance. This signaled the beginning of strong tensions between OSD and the Military Services. The results of this study were taken by the Chairman, Joint Chiefs of Staff (the highest-ranking U.S. military officer), and put in a separate report that criticized the Military Services' attempt to improve depot maintenance management. The JCS Chairman recommended a joint command structure that would have taken decisions about depot maintenance provision out of the control of the individual Military Services and, organizationally at least, placed into a context that considered depot maintenance provision and usage decisions in the context of joint combat planning.

The Bottom-Up Review, a Military Service Response to "Jointness," BRAC 93, and Dramatic Congressional Action

In March 1993, the SECDEF initiated a comprehensive Bottom-Up Review of the U.S. defense strategy, force structure, modernization, infrastructure, and foundations. This was a major attempt by the new Clinton Administration to better understand how to shift the DoD focus away from the Soviet threat to the post-Cold War era. The final report was issued in September 1993. It estimated DoD's excess depot capacity at 25–50 percent. It also suggested that DoD should see direct infrastructure savings of \$10 billion to \$11 billion. The report indicated that savings could be achieved by transferring maintenance operations to the private sector and that there are significant economies of scale to be realized from consolidations in such areas as depot maintenance.

The following month, the JCS proposed the establishment of a Joint Logistics Command to consolidate Service and Defense Logistics Agency operations into a single command. The proposal included the consolidation of depot maintenance under this Joint Command. While

many details about the dynamics of how this occurred are difficult to gauge, the initiative was soundly and rather quickly defeated by the Military Services.

During the same month, the Commander of the Naval Air Systems Command expressed serious concern over continuing takeover attempts by the Air Force to gain management control of Naval aviation maintenance. Justification for Navy retention was primarily based on (1) the Navy's fully integrated cradle-to-grave management of design engineering, manufacturing, production, test and evaluation, logistics, and in-service engineering; and (2) Naval aviation's unique shipboard operating environment. The Navy also argued that the Marine Corps enjoys a closely integrated systems support infrastructure that would be seriously jeopardized if Navy no longer maintained its specialized depot capability.

In September 1993, BRAC-93 recommendations for closure were approved by the President. Mare Island and Charleston Naval Shipyards; Alameda, Pensacola, and Norfolk Naval Aviation Depots; and Tooele Army Depot were all included on the base closure list. Since 1988, through BRAC 93, the following public-sector maintenance depots had been slated for closure:

- Three of the six Naval Aviation Depots
- Three of the eight Naval shipyards
- Three of the nine Continental United States (CONUS) Army depots (plus Mainz, Germany)
- One of the seven Air Force depots

In the same month, the newly established Joint Policy Coordinating Group on Depot Maintenance (JPCG-DM) supported several initiatives to restructure depot maintenance. The Group coordinated generic depot maintenance and commodity studies and produced the Joint Service Business Plan.

In October, the Joint-Service study draft report for Integrated Management of Department of Defense Depot Maintenance Activities reviewed alternatives to management of depot maintenance operations and issued several major findings. The findings indicated that DoD is successfully eliminating excess depot maintenance capacity. However, the report conceded that excess capacity will almost certainly still exist after closures are completed. The draft report also found unnecessary duplication of capability and suggested that future closures and realignments will be required. The report also found that the requirement for a public-sector Core depot maintenance capability is still valid and that caution should be exercised when considering centralization and consolidation.

The study participants' preferred alternative for resolution of depot maintenance issues was an empowered DDMC to provide oversight of DoD operations, develop policies, make key decisions, and exercise SECDEF authority to provide effective, integrated depot maintenance management.

Congress stayed very involved as these alternatives were considered. In October 1993, the House Appropriations Committee directed the SECDEF to establish a process for the development and consideration of depot maintenance provisioning options. The Senate Appropriations Committee directed the SECDEF to conduct an extensive review of approaches for BRAC 95, develop a comprehensive program that required common commercial and military activities to be competed between public and private organizations, and to report on a plan to expand interservicing and public-private competitions for depot maintenance by May 1994.

In November 1993, as a result of the Integrated Management study, DEPSECDEF established an "empowered" DDMC, chaired by the Deputy Under Secretary of Defense (Logistics) [DUSD(L)]. Significant issues identified were developing a DoD industrial depot

maintenance strategy; obtaining legislative support for the strategy; and the upcoming BRAC 95. Also, the study recommended a DoD Depot Maintenance Task Force, which Congress had mandated in 1993 legislation. This group was formally established in January 1994. The Task Force was directed to assess the overall performance and management of DoD depot-level maintenance activities. The assessment included nine major management areas in public and private repair facilities for review.

In addition to establishing a DoD Task Force, the FY 1994 Authorization Conference Report also contained other sections relative to depot maintenance, which were far-reaching in scope. For example, the Report required the SECDEF to ensure adherence to the percentage limitations (sixty-forty split) previously legislated and indicated that, during FY 1994, the SECDEF could not consolidate the management of depot maintenance under a single Defense-wide entity. The Report also stated that the SECDEF should, to the maximum extent possible, compete depot maintenance workload from those depots that are closing among the remaining depots in order to reduce costs and improve overall efficiency of DoD depot operations as well as ensure that a sufficient amount of depot maintenance of new weapon systems and equipment is assigned to DoD depots.

In November 1993, DUSD(L) established policy for maintaining core depot maintenance capability and provided the Military Services with the methodology for quantifying core requirements. "Core" was defined as the capability maintained within public-sector defense depots to meet readiness and sustainability requirements of weapon systems that support Joint Chiefs of Staff contingency scenarios. The core definition also stated that Core depot maintenance capabilities will comprise only the minimum facilities, equipment, and skilled personnel necessary to ensure a ready and controlled source of required technical competence.

In summary, the organizational dynamics that occurred during this eight-month period were remarkable. First, a new Administration that seemed fairly serious about cutting unnecessary government spending initiated a large-scale review of the DoD that indicated, for the first time, that needed savings can be achieved by transferring maintenance operations to the private sector. Second, the concept of providing depot maintenance based upon a joint perspective, which had been endorsed by the Chairman of the JCS, is defeated by the Military Services. The Services also continued to caution against consolidation and admitted that downsizing needed to occur, but wanted to rely upon an OSD group, the DDMC, to manage this process. Third, the Military Services began to focus upon Core capability establishment as a method to quantify what maintenance needs should come from the public sector. Finally, Congress legislatively prevented the SECDEF from consolidating the management of depot maintenance under a single Defense-wide entity, a position that had been advocated by the Military Services. Congress also suggested that DoD compete workload within the public sector that results from BRAC closures. These closures, of course, continued to shrink the size of the public-sector depot infrastructure.

These dynamics created, for the first time, clear parallels between advocacy presented by the Military Services and by the Congress. While the Military Services clearly demonstrated that they desired control of depot maintenance, they wanted it at the individual Service level. As more public-sector facilities closed, the reality of these losses came clear to them and to Congress, who could work to support Military Service interests through support of bases in their districts. Congress began to support legislatively what the Military Services advocated in the Pentagon, which began to run counter to higher-level OSD approaches. This created tension

between OSD and the Military Services, although the Services officially continued to advocate usage of the DDMC to guide policy direction in this area.

Joint BRAC Reviews, the Depot Maintenance Task Report Findings, and Military Service Dissension

In January 1994, the DEPSECDEF BRAC-95 “Kickoff” Memorandum formally started the BRAC-95 process. It identified depot maintenance as one of five functional areas for review during BRAC-95 cross-Service analyses. Subsequently, the Joint Cross-Service Group for Depot Maintenance (JCSG-DM) was established. The group was chaired by the DUSD(L). The purpose of the JCSG-DM was to determine common support assets and activities and conduct analyses for potential public-sector depot maintenance consolidation recommendations for BRAC 95.

During the same month, the Under SECDEF established the Depot Maintenance Task Force, comprised of members from both public and private sector organizations, to assess the overall performance and management of public-sector DoD depot maintenance activities. This Task Force was mandated in the previous year’s legislation. In addition to nine assessment areas identified in the legislation, OSD asked the Task Force to address two additional areas: approaches to improve overall efficiency of depot maintenance in public and private industrial facilities, and depot maintenance plans for sourcing new items of equipment and relative cost-effectiveness of public and private industry facilities.

In accordance with the legislation, membership comprised individuals from DoD and the private sector who had expertise in the management of depot maintenance activities and weapon systems acquisition. Membership also included some who had been users of depot maintenance products.

The Depot Maintenance Task Force issued an Interim Report in March 1994. The report recommended reversal of the sixty-forty public-private legislation, supported the concept of

“Core” (public-sector capabilities supported by requisite workload), and the general philosophy of relying on the private sector for major modifications and upgrades. It also recommended strengthening of the role of the DUSD(L) and the DDMC in guiding infrastructure and sourcing decisions. The Task Force majority position was that (1) depot maintenance Core should be Military Service-specific, with public depots sized to Core levels, and (2) public depots should maintain only Core capabilities, and any non-Core workload should be accomplished in the private sector. A major unresolved issue was the Air Force’s dissenting opinion that Core workload should not be Service-specific and that non-Core workload should be competed public-private or public-public.

The final report of the Task Force was published on 17 April 1994. The Task Force found a need to continue depot maintenance infrastructure downsizing. The Task Force, except Air Force members, also agreed that the public-sector depots should not engage in competition with the private sector or with other Service depots. The study reaffirmed the need for public-sector depots to perform Core work and recommended that all non-Core work be performed in the private sector. In addition, it recommended that public-private and public-public competition be discontinued.

The final recommendation was partially based on the existing deficiencies in public-sector depot financial systems that precluded reliable cost comparisons. The Task Force and other related studies and audits had concluded that databases and financial management systems in DoD were not capable of determining actual costs of specific workloads, and although attempts had been made to execute fair public-private cost competitions, a level playing field was not achievable in the near term. The major legislative recommendation of the Task Force was to replace the current sixty-fourth legislation with a concept consistent with Core policy

implementation. Administrative recommendations included complete implementation of core policy, the need for improved financial management systems within DoD, and further strengthening of the DDMC to effectively address vital depot maintenance issues.

The Air Force was not satisfied with the Task Force results and continued to voice its preference for providing all aircraft maintenance for the DoD. In April 1994, an Air Force White Paper was produced. It argued publicly for single-service management, which effectively promoted the closure of all Naval Aviation Depots. This generated a quick reaction from DEPSECDEF. In the same month that the White Paper appeared, he directed the Navy and the Air Force to (1) jointly develop a coordinated plan to improve aviation depot maintenance, (2) use the most proficient DoD depot to perform maintenance, and (3) consolidate workload to reduce excess capacity. By November 1994, however, the OSD-mandated process to review a Joint Navy/Air Force Aviation Depot was reported out, with no major milestones accomplished.

The DEPSECDEF did eventually approve most of the recommendations of the Depot Maintenance Task Force. He also formally discontinued public-private competitions for depot maintenance. His report also directed adoption of DoD-wide Core capabilities analysis.

This Task Force Report and the DEPSECDEF response were not well received on Capitol Hill, however, because they appeared to favor increased privatization of depot maintenance work. The August-September 1994 FY 1995 Defense Authorization and Appropriation Acts contained language that supported competition and reinforced the requirement that at least 60 percent of depot maintenance work be accomplished in public-sector maintenance depots. This ran counter to OSD's strategy to size public-sector depots to Core requirements and increase privatization for the remainder of the depot maintenance workloads. Several reports were required by Congress in the legislation: (1) sixty-fourty compliance,

(2) cost growth in depot maintenance contracts, and (3) plans to provide for depot maintenance provision for new weapon systems.

Another major Congressionally sponsored study was announced in September 1994. The Congressional Commission on Roles and Missions of the Armed Forces identified initial issues to be reviewed, two of which were “Depot Maintenance Management” and “Aviation Infrastructure.” The Depot Maintenance Task Force was also tasked to review several management options in these areas.

In January 1995, SECDEF submitted an initial report on sixty-forty compliance to Congress (required by the FY 1995 Authorization Act). It indicated that all Military Services were in compliance. OSD forwarded all final Service inputs to Congress on 25 April 1995. In the same month, OSD submitted the FY 1996 DoD Omnibus Bill (legislative proposal package) to Congress. The bill included a proposal to repeal Section 2466 (sixty-forty law) and Section 2469 (the requirement for competition for workloads above \$3 million).

In summary, a Congressionally mandated study that includes a range of perspectives on depot maintenance provision recommended a reversal of the sixty-forty split of workload and also took competition out of the potential processes through which provision decisions should occur. The Task Force was satisfied that DoD could manage its depot maintenance infrastructure properly by using the Core policy to size a small amount of requirements and workload for the public-sector depots and rely on the private sector for the remainder of its requirements.

Although Congress had mandated the study, it did not embrace the perspective offered by the Task Force. This highlights a noticeable pattern of the House Depot Caucus position becoming, in fact, Congress’s overall position on the issue.

Also, the Air Force's growing fight with the Navy and OSD regarding maintenance ownership and philosophy provides an indication of growing divergences of opinion over these issues, but organizational energy focused primarily upon OSD's and Congress's larger disagreements over control and management of provision decisions. OSD's dismissal of competition as a method to reach sourcing decisions and Congress's inclination to keep it in the legislation is also noteworthy. It indicated that the DoD made assumptions about which sector was, overall, more efficient and was not inclined to let competition determine who and how depot maintenance work should be provided. This suggests that the DoD preference for commercial sourcing of depot maintenance borders on dogmatic.

A Limited Role for Public-Sector Depot Maintenance and BRAC-95 Results

In May 1995, the Commission on Roles and Missions (CORM) completed its report, "Directions for Defense." The report recommended full privatization of depot maintenance for existing and future systems and establishment of single management elements (SMEs) for planning and allocating routine fixed-wing and rotary-wing aircraft maintenance.

Many responses were provided to this report within DoD. For example, the CNO response to the CORM report agreed that privatization of depot maintenance workload should be increased, but public-sector Core capability must be retained. The Secretary of the Navy's response agreed with CNO's position regarding privatization. The JCS response was that Core must be maintained. The ultimate SECDEF response agreed to privatize a significant portion of depot maintenance work, including new systems, but maintained that DoD must retain a limited public-sector Core capability to meet combat surge demands, promote competition, and sustain institutional expertise.

In July 1995, the DDMC was held. It addressed issues that included BRAC recommendations for depots and CORM recommendations for materiel management and depot maintenance.

A new DEPSECDEF was named in October 1995. He formed a group to implement CORM recommendations and DDMC analyses. Five working groups were established, including one for depot maintenance. A Depot Maintenance Functional Working Group (FWG) began work to increase privatization. One of its sub-groups drafted a time-phased implementation plan for privatization actions. Major milestones included removing legislative barriers [e.g., Section 2466 (sixty-forty) and 2469 (\$3 million)], reviewing the existing Core methodology, and identifying candidates for privatization.

In September 1995, a CNO staff officer chaired two meetings of a Senior-Level Working Group on Privatization and Core Review. The purpose was to reach a consensus on whether DoD's core definition or methodology should be revised in light of CORM recommendations and OSD's privatization efforts. The Group concluded that the current Core definition and methodology should not be changed.

In September 1995, the President approved BRAC-95 recommendations for closure. Long Beach Naval Shipyard; Naval Surface Warfare Center, Louisville, KY; the depot maintenance function at Naval Undersea Warfare Center, Keyport, WA; and Sacramento and San Antonio Air Logistics Centers were all included on the base closure list. Letterkenny and Red River Army Depots were approved for realignment. From 1988 through BRAC 95, the following public-sector depot maintenance activities had been slated for closure:

- Three of the six Naval aviation depots
- Four of the eight Naval shipyards

- Three of the nine CONUS Army depots (plus Mainz, Germany)
- Three of the seven Air Force depots

The 1995 BRAC action resulted in the first-ever waiver of the sixty-forty rule. Title 10 allowed the Military Service Secretary to request a waiver if “necessary for reasons of national security.” Following BRAC 1995, the Air Force was not able to accommodate all the work transferring from the closed air logistics centers (ALCs) and had to notify the Congress that it would need to breach the sixty-forty rule and send the excess work to the private sector. The House Depot Caucus viewed the waiver request as an initial attempt for a breach of the provision, but was disinclined to stop it. The Air Force required a second waiver the next fiscal year, and the GAO subsequently determined that because of poor reporting and accounting practices, the Navy also likely breached the sixty-forty rule.

In summary, an additional Congressionally sponsored report recommended full privatization of depot maintenance. This was the first outright endorsement of the private sector over the public sector for depot maintenance provision that had been recommended. OSD worked aggressively to implement privatization as a result and agreed to use the Core methodology to assess a small portion of remaining public-sector maintenance capability. The BRAC process continued to reduce the size of the public-sector infrastructure, and the Military Services became largely absent from much of the debate. This absence can at least be partially explained by the fact that they were working to manage overall workload provision requirements that Congress had mandated (sixty-forty), which they began having trouble meeting. It is also noteworthy that most of the continual input that was received at the OSD level regarding a comprehensive Department-wide attempt to quantify and manage depot maintenance actions came from the Department of the Navy. The Military Services’ confrontations

about ownership of specific repair processes lingered and prevented useful coordination on these matters.

1996 to the Present: OSD's Prevailing Perspective on Depot Maintenance Provision, and a Lack of Strategic Response

In April 1996, DoD issued a far-reaching report to Congress entitled "Policy Regarding Performance of Depot-Level Maintenance and Repair for the Department of Defense." The House National Security Committee and the Senate Armed Services Committee, who had asked for the report, saw a comprehensive depot-maintenance strategy as a means to achieve depot efficiencies and resolve the constant debate over how to apportion work between the public and private sectors. At the same time, the House and Senate conferees noted that the lack of a comprehensive policy engendered skepticism regarding purported savings through reliance on the private sector. They indicated that although it is possible that savings can be achieved by contracting with the private-sector sources for the performance of some work currently performed by the DoD depots, the Department had neither determined the type or amount of work that should be performed under contract with private-sector sources nor the relative costs and benefits of contracting for the performance of such work by those sources.¹²¹

DoD's report discussed overall depot maintenance support for new and upgraded weapon systems to be in the private sector. It also argued for a reduction in workloads needed to retain public depot Core capabilities, as required by 10 U.S.C 2464, and described the use of a Core methodology for determination of public-sector maintenance capabilities. Congress did not respond favorably to DoD's report. The House National Security Committee noted that the report did not go far enough to identify public-sector Core capabilities. The Senate Armed Services

¹²¹ *National Defense Authorization Act for Fiscal Year 1996*, Public Law 104-106, Section 311, Policy Regarding Performance of Depot-Level Maintenance and Repair for the Department of Defense.

Committee found DoD's report unresponsive to Congressional requirements, inconsistent with current law, and perhaps contradictory with national security interests. The Committees also criticized DoD for not allowing public depots to compete for what they determined to be non-Core work. Therefore, Title 10 provisions remained essentially the same and required public-sector depot maintenance capabilities for (1) providing for performance of Core depot-level maintenance and repair capabilities in facilities owned and operated by the United States; (2) providing for the Core capabilities, including sufficient skilled personnel, equipment, and facilities that are assigned sufficient workload to ensure cost efficiency and technical proficiency in time of peace; and (3) providing for new weapon systems defined as Core to be repaired in government-owned and -operated facilities.

Congress's central question was whether DoD could execute its new policy on outsourcing within the framework of legislative requirements. It had seen continual requests for legislative modifications that would do away with restrictions related to depot maintenance workload allocations, but had articulated unease about the changes in policies that had resulted in large reductions in public-sector Core capability and almost no Core capability being identified for critical systems. This had caused Congress to take little action on the DoD's legislative proposals.¹²² DoD's 1996 policy document stands as the overall position on depot maintenance management and that the Congress should make the legislative change it desired through its development.

What is interesting is that various House and Senate versions of the FY 1996 Authorization Bill contained alternative provisions pertaining to Core and privatization. Section 367 of the House Bill increased DoD's reliance on the private sector for all products and

¹²² The only change that has been made is that limitations on the amount of depot maintenance work that can be performed in the private sector were increased from 40 to 50 percent.

services. Section 395 required DoD to maintain Core capabilities in public-sector depots, but repealed the sixty-forty law and the \$3 million rule, and required a comprehensive depot maintenance analysis by 31 March 1996. The Senate version was similar to the House in that the sixty-forty law and the \$3 million restriction would be repealed; however, the Senate required DoD to submit a comprehensive depot maintenance policy. Upon approval of the policy, members of Congress involved in the negotiations had agreed to enact additional legislation to repeal Sections 2466 and 2469 of Title 10 U.S.C.

As of the present, DoD has not provided this plan. The incumbent administration would take no action beneficial to public sector maintenance depots; hence no plan was ever submitted. A July 2003 GAO report indicated¹²³ that the Office of the Secretary of Defense (OSD) had not implemented a comprehensive or strategic plan for depot maintenance. The GAO recommended that DoD develop strategic and related implementation plans for the use of depots that would identify desired short- and long-term capabilities and associated capital investments and human capital needs.

While DoD has relied on the private sector for more of its depot maintenance work, it also continues to rely on its Core policy, but this has been problematic. Overall OSD efforts to coordinate depot maintenance provision have not been stressed because of the stated desire of the acquisition community with DoD to rely upon the private sector for its depot maintenance needs. A major study has also found a wide range of practices in the public-sector depots' implementations as they have developed their unique applications to satisfying Core requirements.¹²⁴

¹²³ U.S. General Accounting Office, *Depot Maintenance: Public-Private Partnerships Have Increased, but Long-Term Growth and Results Are Uncertain*, GAO-03-423 (Washington, D.C.: GAO, 2003).

¹²⁴ PwC and LMI, *DoD Core Depot Maintenance Policy/Methodology Report*.

For example, the Naval Sea Systems Command has a strategic view of determining Core capability requirements and in allocating workload between the public and private sectors. The Air Force uses a well-developed and rigorous repair base assessment, including a private-sector risk assessment, in its Core determinations. The Army has a comprehensive and useful database for sorting and processing its information, while the Naval Air Systems Command also has an effective database that demonstrates a rigorous application of its interpretation of Public Law. The Marine Corps has developed a detailed information database and is beginning to develop procedures for its recently established Materiel Command to determine and manage its Core capability requirements.

The Core methodology has also been critiqued as confusing or indeterminate to the point that it is applied inconsistently by the Military Services. The GAO¹²⁵ has noted that the Core methodology was not routinely used in DoD decision making. Specifically, neither the Services nor the DoD effectively addressed Core depot maintenance capability requirements in the context of strategic planning. This is at least partially due to the fact that the Core methodology was not directly linked to the Department's budget or any other DoD strategic-planning process.

There are additional inconsistencies in the current setting. For instance, because the Military Services still use legacy systems, they need public-sector depots to provide maintenance that the private sector either can't perform because the capability no longer exists or will not perform because it is not profitable. Within the DoD, public-sector depots are now primarily viewed as the first source of repair for legacy systems, but the last source of repair for new systems. Yet Title 10 still requires the Military Services to achieve public-sector depot repair capability for new systems within four years of a given system's initial operational use. This

¹²⁵ U.S. General Accounting Office, *Uncertainties and Challenges DoD Faces in Restructuring Its Depot Maintenance Program*, GAO-97-112 (Washington, D.C.: GAO, 1997).

requirement is widely criticized by industry associations that represent private sector maintenance activity interests.

In addition, there are many other important trends under way, many of which have been discussed in Chapter One of this study, that are influencing depot maintenance provision overall and combat support needs in particular. While these are occurring, OSD leadership and Congress (primarily the House Depot Caucus) appear to be somewhat trapped by a certain inactivity that reflects a curious balance of their interests to control the depot maintenance provision decision and not a focus on the depot maintenance sourcing decisions as a support process for combat needs.

With an additional round of base realignment and closure (BRAC) approaching in 2005, there is considerable uncertainty as to how a strategic approach for depot maintenance provision could occur. The House Depot Caucus has blocked any legislative proposal that it views as a disadvantage to public depot maintenance activities. With the exception of the legislative support for depot maintenance partnerships, the Congress has not supported additional proposals, and OSD has not provided any recent significant initiatives in this area.

Information gathered as part of this analysis indicates that the House Depot Caucus views 2005 as somewhat of a make-or-break BRAC round for public-sector maintenance depots and could be the end of the public-sector depot system as it exists. Interestingly, BRAC 2005 is OSD-driven, a top-down assessment instead of the Service-driven processes of former BRAC rounds. This procedural change in the BRAC process has been fostered by the current SECDEF. Increased joint capabilities and elimination of redundancy appear to be the main goals of this BRAC process, and public-sector depots will be assessed on military utility and efficiency. Initial indications indicate that this review appears to be similar to the type of examination that

JCS Chairman Powell had advocated for the depot infrastructure in 1993, a position that the Military Services had voiced strong objection to and worked successfully to defeat.

Summary of Stakeholder Positions

Regardless of the BRAC outcome, a useful starting point for moving forward in a more-strategic fashion is to delineate various stakeholder positions in relation to the history that has occurred. These positions, coupled with the substantive issues that inform them, provide insight into the dimensions of the current framework for decisions about depot maintenance provision and the particular problems that underlie it. They also make it possible to begin to identify clear advocacy coalitions, as defined by Sabatier and Jenkins-Smith, that have taken shape and to use the coalition perspective to both assess and potentially improve the existing decision-making framework. Through the problem representation and substantive policy issue identified, it is possible to begin to conceptualize the decision-making framework for depot maintenance provision in the context of certain belief systems that have evolved through time and to associate certain beliefs with clear coalitions of policy actors- and to use this perspective to augment current understandings of the topic. This will be done in the following chapter.

Table 12 provides a summation of the stakeholder positions as they have evolved during the past 14 years. Each stakeholder group's substantive issue or issues are listed to suggest a high-level characterization of the stakeholder's point of view with regard to the determination of public and private roles for depot maintenance.

Table 12. Depot Maintenance Provision: Problem Representation by Key Policy Stakeholders

Stakeholder Group	Approach to Depot Maintenance Provision Choice	Substantive Policy Issue(s) Emphasized
U.S. Congress— House Depot Caucus	Depot maintenance provision is an issue of a critical national capability. Given several risks that are not acceptable with complete private-sector provision, coupled with the need to keep military assets involved in military maintenance, key maintenance capabilities must be in public control. We must structure and monitor decisions to ensure this situation. We will sanction up to half of depot maintenance dollars for a given year for private-sector provision and will monitor compliance with this requirement. This quota is a necessary “backstop,” given DoD’s proclivity to outsource maintenance capabilities and workloads. We will also monitor laws to ensure that a process to evaluate the public-sector depot maintenance infrastructure is followed within the DoD, given employment concerns related to political factors. Recent legislation that encourages public-private partnerships could be seen as a way ahead for improvements in this area.	Resource Preservation; Risks of Outsourcing; Job Retention
Office of the Secretary of Defense	Overall approach to depot maintenance provision is very much aligned with private industry problem definition (described below). Various studies, proposals, and policies have been advanced based upon this perspective. This has created a recent history of contention and legal issues, given the Congressional position; however, overall support has been for private-sector provision of depot maintenance, in light of lingering public-sector overcapacity issues. Compliance with all legal requirements, however, has been attempted and, in most cases, reached.	Efficiency; Compliance
Military Services	Have worked to maintain control of depot maintenance sourcing decisions and manage them at the Service level. The depot maintenance source-of-repair decision is approached in two central ways, given law and policy, and this is difficult to manage. For new program requirements, the decision is placed in the hands of our acquisition communities. In this case, depot source-of-repair decisions are made on a system-by-system basis. For fielded systems, rely upon logistics commands, which employ the core methodology, as required, which views decisions in the context of war-fighting requirements and our public-sector depot infrastructure, at least within individual services. The major constituency groups that surround the depot maintenance decision can both provide maintenance services to us and, in some senses, be competitors. All groups look for political support, which, at times, has also driven where we decide to do depot maintenance. Political interest in these decisions is ubiquitous, and Congress has supported our depots at various opportune times.	Control; Compliance; Responsiveness
Depot Maintenance Providers— Private Industry	Central position in early 1990s was that the private sector can improve maintenance service and overall responsiveness and save the military money. State-of-the-art capabilities and processes should provide all depot maintenance for the military. This was seen as a good long-term investment for the country’s national security needs. Over the past four to five years, the private sector is receiving most “new start” depot maintenance provision decisions, but seems to be cooperating in greater fashion with public-sector depots to provide depot maintenance services.	Efficiency; Business Base
Depot Maintenance Providers— Public Sector	Based upon history of support to the military forces, are multiproduct-capable and possess integrated capabilities for a wide variety of depot maintenance processes and product lines. Meet the essential requirement to provide a ready and controlled source of depot maintenance technical competence to ensure an effective and timely response to national defense contingencies and emergency requirements. Very recent anecdotal evidence from war fighters confirms this claim. Capabilities should be options for depot maintenance requirements for new and emerging systems, as well as those currently in operation.	Competency and Mission Linkage; Job and Skill Retention

Table 12. Depot Maintenance Provision: Problem Representation by Key Policy Stakeholders

Stakeholder Group	Approach to Depot Maintenance Provision Choice	Substantive Policy Issue(s) Emphasized
Operators— Depot Maintenance Customers	Depot maintenance must be provided in world-class fashion to support a unique set of systems (very old to cutting-edge) that must be mission-capable. Depot maintenance should be viewed as part of a logistics enterprise, and depot maintenance provision decisions should be transparent, yet show effective results in the form of workable replacement equipment and systems.	Effective Mission Support

Chapter Four: An Assessment of the Current United States Military Depot Maintenance Provision Framework and Proposal for Improvement

This chapter integrates and assesses the details discussed in the previous chapters and identifies and addresses certain problems raised by the analysis. Chapter Two provided background and the formal legal and policy framework for decisions about military depot maintenance provision. Chapter Three discussed the history and diversity of interests that underlie that decision-making framework. Chapter Four determines the ways in which this preceding analysis can be useful as a source of new insights and ideas that could improve decision making in this area.

Extensive description, which has occurred in Chapters Two and Three, improves the chances of useful prescription. Furthermore, it is a strong tenet of the strategic planning literature that prescription based upon the perspectives of those involved in the area of concern, particularly in a contentious decision-making area, improves the chances of it being seriously considered.¹²⁶ My research attempts to demonstrate that an understanding of the patterns of the past, as well as plans for the future, is essential to manage the formation of new perspectives. This notion, as well, is an important focus of the strategic planning literature, and is included in works by Mintzberg and others.¹²⁷

In this chapter, Sabatier and Jenkins-Smith's Advocacy Coalition Framework (ACF) is drawn upon to identify various patterns associated with the current decision-making framework. The dimensions and sources of problems embedded in this current framework are also discussed. Based

¹²⁶ Bryson, *Strategic Planning for Public and Nonprofit Organizations*.

¹²⁷ Henry Mintzberg, James Brian Quinn, and John Voyer, *The Strategy Process*, collegiate ed. (Englewood Cliffs, NJ: Prentice-Hall, 1995).

upon the characteristics of the problems, an improvement approach, which I have termed the Strategic Improvement Agenda (SIA) is proposed to address problems identified in the current decision-making framework for depot maintenance provision. The SIA will be described in both structural and process dimensions. The structural dimensions will address how the SIA will be organized to both acknowledge and leverage the substantive policy issues that are emphasized by each key policy stakeholder group that is concerned with depot maintenance provision choices. The process dimensions will outline actual steps that may be taken to carry out major steps of the improvement agenda.

Consideration of the SIA could better position DoD to develop more coordinated and effective decisions in this area because the approach is based upon a rationale that takes into account the stakeholder perspectives involved, as well as particular characteristics of the depot maintenance provision decisions. The SIA proposes a combination of technical analysis with an identification and interpretation of issues that reflect potential areas of joint interest. This combination of the importance of both the technical and organizational aspects of planning has been stressed in several literatures, including Chaos and Complexity.¹²⁸

In addition to discussing the SIA's basis in academic literature and its relevance to a current DoD initiative [i.e., public-private partnerships (PPPs)], this chapter addresses the following questions:

- What does history suggest about the current overall patterns for depot maintenance provision and what rationales account for what is observed today?
- What problems has this situation created?
- How important are these problems?
- How should DoD proceed to overcome these shortfalls?

¹²⁸ Kronenberg, "Chaos and Re-Thinking the Public Policy Process."

Overall Patterns and Rationales

The primary overarching pattern discerned regarding current choices for depot maintenance provision is that the highest Legislative and Executive Branch organizational groups involved in the decision have successfully set the dialogue about, and the premises and ultimate goals of, the decision. Also, they have successfully controlled the significant forms of formal authority that support it. Over time, the House Depot Caucus and consecutive senior political appointees within the Office of the Secretary of Defense (OSD) have tightly controlled the issues, objectives, and premises that have set the debate and the basis for the laws and policies that govern decisions about depot maintenance provision.

This formal authority, based upon the positions that these groups occupy, is legitimized power that must be acknowledged by those making the actual decisions in this area.

Noncompliance means breaking the law or going against policy.¹²⁹ The House Depot Caucus, through the legislation it has supported, and OSD, through its policies, have insisted that the exercise of the depot maintenance provision decision depends upon the correct application of the formal rules and procedures that they have established.

The problem is that the current formal authority structure created by these groups is confused and contradictory and reflects an ongoing power struggle to control the overall outcomes of the depot maintenance provision decision. This has taken the form of mandates; for example, all decisions should result in a particular sector performing depot maintenance work, or one sector must have the capability to repair any weapon system that may be used in combat. Such positions underlie much of the law and policy that support the provision decision.

¹²⁹ The classic discussion of formal authority structures in organizations is offered by Max Weber, *The Theory of Social and Economic Organization* (London: Oxford University Press, 1947).

The mandates suggest “either/or” kinds of discussions that focus upon “who” should provide the maintenance and do little to inform the substance of actual provision decisions. They also primarily serve to support the high-level arguments that have occurred over the narrow “public versus private” concept that is part of the provision issue, but obfuscates other dimensions. In fact, these battles over the formal authority structure have been so contentious and focused upon the interests of a small number of stakeholders involved that the laws and policies that govern the decisions have lost legitimacy with those who actually make the decisions within the Military Services.

The acquisition and logistics communities within the military do work to comply with law and policy as they make depot maintenance provision decisions because they are required to do so. However, this analysis indicates that they question the premises of the processes, adapt them to satisfy their interests, and see them primarily as aggregate reporting requirements that do little to improve the fundamental management of depot maintenance provision decisions.

The public-sector and private-sector maintenance activities, the organizations that actually do the work based upon the decisions made, clearly would like the greatest amount of depot maintenance work possible. Therefore, they have aligned themselves with those who have historically attempted to control the overall outcomes in a way that would be in their best interests. Again, because these higher-level dynamics have been generally “either/or” in tendency, this alignment seems quite clear from the historical review provided and has been based upon how well the Congress and OSD could support the various maintenance depots “sector” interests with which they have aligned.

In the recent history described in Chapter Three, private-sector maintenance activities have aligned with various political appointees within OSD who have supported privatization of

depot maintenance provision. Public-sector maintenance activities have aligned with Congress, primarily the House Depot Caucus, because of its support for laws such as the fifty-fifty rule and the mandated use of the Core capability requirements determination process. While their overall numbers and budgets have continually declined in the history reviewed, Congress has been the primary source of consistent support for public-sector maintenance activities.

The alignment of the public sector depots with the House Depot Caucus as well as that of OSD political appointees and private sector maintenance activities seems to constitute the two primary advocacy coalitions for the policy subsystem that support decisions about depot maintenance provision.

Along with this overall pattern, several derivative arrangements and associated rationales have been identified. These help to characterize the current decision framework. In summary, this analysis indicates that maintenance provision decisions are determined at various organizational levels within the DoD and according to an inconsistent and conflictive set of decision-making approaches. Here is a description of the various conflictive ways the decisions are made:

According to legal requirements, specifically the current Core and fifty-fifty legislation. This legal framework can be explained as a Congressional reaction to OSD's stated policy to outsource the majority of depot maintenance workloads to the private sector. The legislation is very specific and requires significant reporting from OSD. OSD answers these legislative requirements through fifty-fifty reporting and reliance on a core methodology, which essentially states that any weapon system that is used in a war-fighting scenario must have a public-sector depot maintenance capability established. Subsequently, a significant amount of management attention must focus to "meet the quota" at the OSD level and within the Military Services.

According to acquisition policy, which generally advocates private-sector depot source-of-repair provision. This decision-determination rationale has been heavily supported through political leadership appointments within OSD throughout the late 1990s and up to the present time. It is based upon a rationale that is not opposed formally by Congress, but Congress has tempered DoD's rationale by developing a clear stance, ostensibly designed to protect national capabilities and workforces, that is evident in the legal requirements. This particular decision approach has been clearly articulated in DoD acquisition policy. Its focus is primarily on acquisition program managers' reliance upon original equipment manufacturers (OEMs) or private-sector integrators for maintenance support to reduce total life-cycle support costs. The rationale for this approach has been supported by key DoD studies that maintain that the private sector is a less-expensive alternative for depot maintenance services.

According to the "last source" capabilities of public-sector depots. The first Bush Administration and the Clinton Administrations did not pursue a substantial number of major weapon system procurements during much of the 1990s. As major investments in the military decreased in aggregate terms, the DoD decided to maintain and upgrade existing weapon systems. According to policy at that time, the public-sector depot system was the depot source of repair for much of the equipment deployed during that time frame and continues to maintain it today. As the equipment continues to age, replacement parts are harder to come by and skilled artisans increasingly difficult to retain or locate. The public-sector depot maintenance activities continue to repair a large percentage of this equipment and address the problems that are associated with these workloads.

According to depot source-of-repair assignments in the Military Services. This process takes place for new acquisitions and depot maintenance workload reassignments. A

contract versus public-sector depot maintenance selection is performed by the acquisition community. The process is designed to address Core and fifty-fifty requirements, and it also includes a cost-benefit analysis. These analyses are done on a workload-by-workload basis, with little input from the Services' logistics communities.

According to base realignment and closure (BRAC) process outcomes. Several historical BRAC Commission-related decisions have reassigned some depot maintenance workloads to certain maintenance depots for reasons that appear to be purely political in nature. The BRAC process has been a very effective method to reduce overall excess public-sector maintenance capacity and infrastructure, but it has caused lingering problems in the depot maintenance policy setting, particularly in the relationships between OSD senior political appointees and members of Congress, particularly the House Depot Caucus. For instance, several BRAC-related workload placement controversies, particularly during the Clinton Administration, have contributed to Congressional wariness regarding DoD policy intentions in this area. In summary, the fact that the BRAC process has closed 97 major military facilities has made some members of Congress wary of OSD proposals to further streamline this infrastructure.

According to pressing combat requirements. The growth in contractor logistics support arrangements and the increased use of funding arrangements that put greater portions of money (and the authority to use such funds) directly with the combat community provide the operating commands increased flexibility and authority. These organizations can then make a larger number of sourcing decisions and are doing so increasingly.

Summary

This diffusion of rationales reflects a set of decision criteria that are, at best, loosely coupled within the organizational structure of DoD. For this set of decisions, DoD seems to have

traded central control, comparability, and standardization for semiautonomous groups of decision makers who are organized around specializations, clientele, and political concerns. This is often done in organizations that are facing complex, confusing, inconsistent, and ambiguous environments. For instance, Cohen and March have observed that this type of arrangement involves trading high levels of overall institutional ambiguity for lower levels of subunit clarity.¹³⁰ However, in this case, OSD has worked to maintain the standardization of outcomes, yet a plethora of decision-making settings exists.

The history reviewed in this study surely indicates that much has changed and continues to change regarding how and why depot maintenance is done and who should perform it. Thus, there is a high degree of uncertainty and possibly a justification for a loosely coupled approach to managing decisions about depot maintenance provision. However, in this case, the confusing nature of this decision-making structure can be explained by understanding the emergence of two primary advocacy coalitions who would prefer central control of the outcomes and premises of the decision, if they could attain it. It is primarily the conflicting preferences at the leadership level within these two coalitions that have created the patterns observed.

During this study, several leaders interviewed who are familiar with the Military Services' perspectives on this issue clearly indicated that the high-level disagreements that were truly controversial in the mid-1990s have lingered to this day and that no clear direction for the numerous rationales that have been "piled on" over the years has emerged. This notion is consistent with the ACF hypothesis that in policy subsystems that involve major controversies and disagreements over core beliefs, the line-up of advocacy coalitions tends to be rather strong and stable over time. Figure 12 provides a graphical representation of the current overall pattern for

¹³⁰ Michael Cohen and James March, *Leadership and Ambiguity: The American College President* (Boston: Harvard Business School Press: 1986).

depot maintenance provision. The two primary coalitions that have taken shape during the 14 year history that has been reviewed are portrayed along each side of the diagram. They are (1) the House Depot Caucus and public sector maintenance activities and (2) political OSD leadership and private sector maintenance activities.

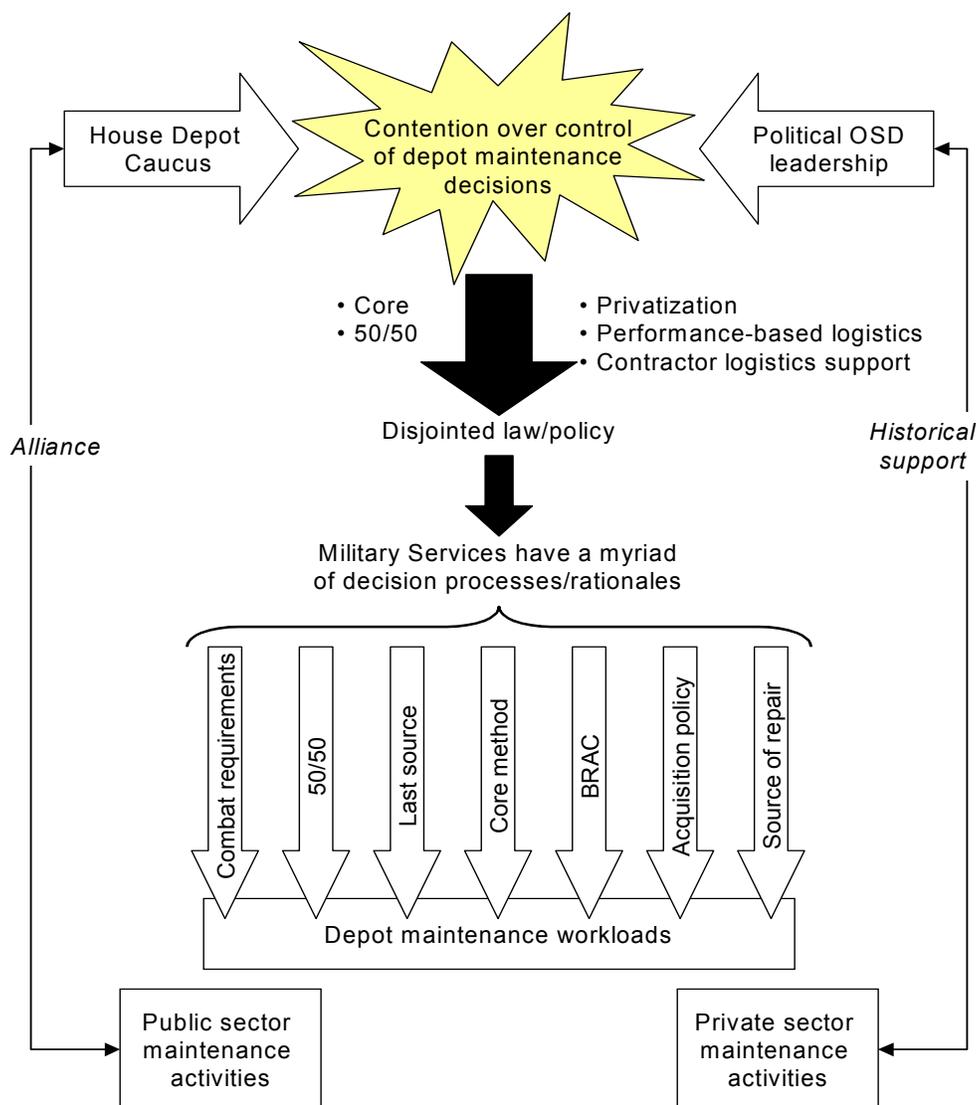


Figure 12. Problems Caused by Overall Pattern for Depot Maintenance Provision

Before a discussion of the particular problems created by this overall pattern is offered, two additional issues are noteworthy. The first is that this overall pattern generates depot

maintenance provision decisions that are considered primarily on a workload-by-workload basis, based upon the particular rationale that is employed. This is, in fact, how most of the academic literature that has treated the topic is focused. Second, there is no process to capture information that could support a more general analysis of trends or capability assessment. There is also very little cost visibility beyond large aggregate numbers, which is an issue that continually hampers effective management within depot maintenance and other areas of DoD.¹³¹ Third, Figure 12 clearly indicates that the House Depot Caucus and OSD political appointees within DoD are the sources of contention for control over the depot maintenance provision process. Law and policy are often products of processes that involve groups that ultimately prevail in setting institutional direction. In this case, these groups have clearly dominated the dialogue and have determined the pattern of decision making that exists.

Whether one views the current contention as a kind of purposeful balance (in which the Depot Caucus has been successful in stemming the tide of increased reliance on the private sector that has been supported by OSD political appointees, or in some other fashion), the fact remains that these two groups have set the agenda for the ways in which these decisions are discussed and carried out.

This study indicates that their views have been seen as increasingly parochial and combative and have prevented or obscured attempts of other areas within either the Congress or OSD to fully address or change the focus of this issue. This should not surprise us because the

¹³¹ U.S. General Accounting Office, *Defense Depot Maintenance: Challenges Facing DoD in Managing Working Capital Funds*. Testimony before the Subcommittee on Defense, Committee on Appropriations, U.S. Senate, 7 May 1997. Statement of Henry L. Hinton, Jr., Assistant Comptroller General, National Security and International Affairs Division, GAO/T-NSIAD/AIMD-97-152 (Washington, D.C.: GAO, 1997); and U.S. General Accounting Office, *Department of Defense Financial Management: More Reliable Information Key to Assuring Accountability and Managing Defense Operations More Efficiently*. Testimony before the Subcommittee on Readiness and Management Support, Committee on Armed Services, U.S. Senate, 14 April 1999. Statement of Gene L. Dodaro, Assistant Comptroller General, Accounting and Information Management Division, GAO/T-AIMD/NSIAD-99-145 (Washington, D.C.: GAO, 1999).

focus of the policy dynamics surrounding depot maintenance provision has been upon what Sabatier and Jenkins-Smith call “policy core beliefs.” In this case, a stress upon “public versus private” has been the starting point of discussion. According to Sabatier and Jenkins-Smith, when discussions focus upon the “policy cores” of these groups, which are primarily normative orientations to the overall issue, relatively stability will occur and little meaningful change is likely to occur.

A way to address this situation, which is an aspect of the Strategic Improvement Agenda (which is discussed after a review of the problems it is hoped to address) is to foster dialogue that avoids such profoundly contentious matters and focuses upon issues that are, at the least, mutually debatable in a constructive manner. Sabatier and Jenkins-Smith refer to these issues as “secondary,” that are, in effect, less touchy and more liable to produce conversations that advance mutual agendas. The SIA will suggest that development of these sorts of issues needs to begin at the institutional leadership level of DoD.

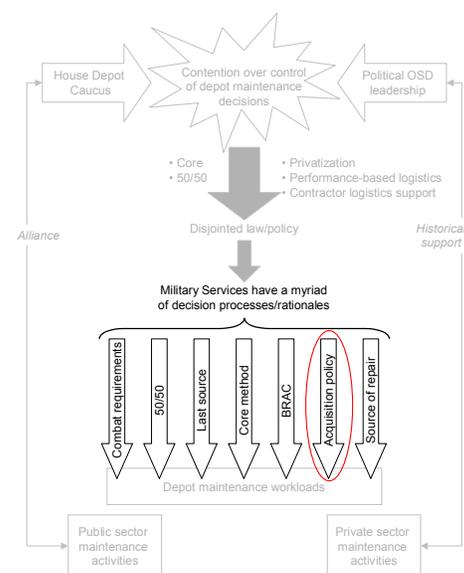
What Problems Does This Situation Create?

This study suggests that six specific problems have been created by the current decision-making setting for depot maintenance provision. My basis for problem identification, using the Advocacy Coalition Framework (ACF), is to perform a coalitional analysis of the overall relationship of the premises, processes, issues, and objectives revealed in depot maintenance provision decisions. In addition, results from elite interviews that suggest central issues or focus points are incorporated into the problems discussed. As mentioned in the Research Approach Section in Chapter One, elite interviewees were asked to comment upon my interpretation of stakeholder positions (which appeared at the end of Chapter Three) as well as my assessment of

the problems caused by the current pattern of depot maintenance decision making, and my Strategic Improvement Agenda (which appears later in this present chapter).

Interestingly, a problem with the current pattern of decision-making is *not* that overall intended results or outcomes are not being reached. In fact, a large aggregate outcome of parity between maintenance sectors is being reported to OSD and Congress through the fifty-fifty report, and more new weapon systems are being supported through private-sector depot activities, according to OSD's acquisition policies. Instead, the problems discussed are the detrimental dynamics that have been created for those who must make the depot maintenance provision decision. They operate in an environment in which there is primarily a focus on meeting aggregate requirements and a general lack of an institutional concentration on the management of depot maintenance provision. The following six problems have been identified:

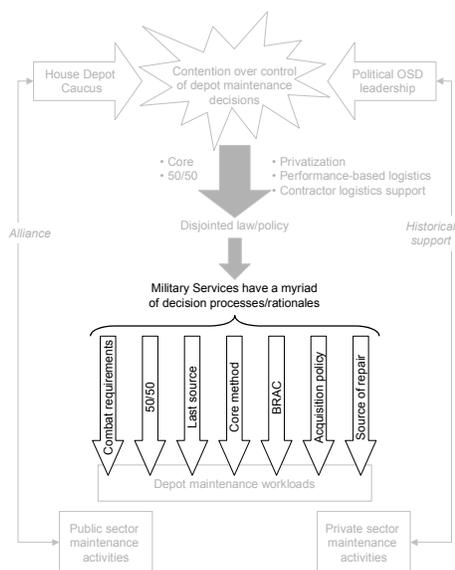
First, the majority of depot maintenance provision decisions are occurring within the acquisition communities within the Military Services. This appears to be the proper organizational element for making many of these decisions, but overall cost pressures and policy to rely increasingly on the private sector for new systems is heavily influencing both the focus and time horizon of these provision decisions. Acquisition program managers are reluctant to make longer-term investments in depot maintenance capabilities, which need to be done early in a system's life cycle in order to be effective, because they have more immediate program needs. Also, because these managers are dealing more exclusively with original equipment manufacturers for all system support needs, they are not considering other support alternatives that could be suggested by the logistics elements of the Military Services.



As one senior defense official indicated, “We have our acquisition community making decisions for the war fighter on these things. It’s not that they are not capable people, but we have whole organizations that are not focused primarily on procurement, but logistics. These logistics groups have awareness of what kinds of maintenance support have worked from a combat support perspective and are not currently at the table with the acquisition community.”

Second, the current plethora of rationales and processes for making depot maintenance provision decisions suggests a lack of consistency, little interdependence among depot maintenance providers, and a lack of credible results. These and associated problems have been noted by various organizations, including the GAO.¹³² The major outcome of this range of rationales and processes is that provision decisions that are uncoordinated and detached from common goals (other than aggregate quotas) provide little opportunity for feedback or tracking of maintenance workload provision, movement, and the possibility of future capability development to more effectively meet requirements.

Other illustrations, such as examinations of the Military Services’ implementation of the Core methodology (which is one of several provision processes), indicate that many approaches are being used to define public-sector capabilities that are required under current law, but no evaluations—other than to confirm that aggregate capability quotas are being met—are

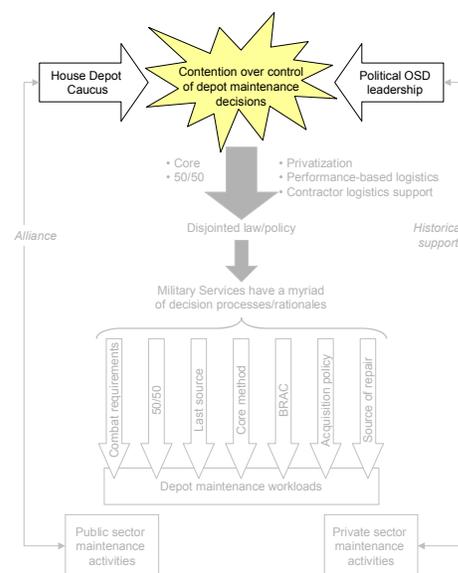


¹³² GAO, Warren, *Defense Maintenance Sustaining Readiness Support Capabilities Requires a Comprehensive Plan*.

performed.¹³³ For example, the Naval Sea Systems Command has a strategic view of determining Core capability requirements and in allocating workload between the public and private sectors. The Air Force uses a well-developed and rigorous repair base assessment, including a private-sector risk assessment, in its Core determinations. The Army uses a comprehensive database for sorting and processing its information, while the Naval Air Systems Command also has an effective database that demonstrates a rigorous application of its interpretation of the law. The problem that results is that neither the outcomes of the processes nor the effectiveness of one approach as compared with another are assessed or managed as alternative support capabilities or approaches.

The third problem detected is that a near immobilization has occurred at the Congressional and OSD levels over the past eight years in terms of changes to the objectives and premises for decisions about depot maintenance provision that could make them more effective. With the exception of the endorsement of public-private partnering and legal support for the concept, these groups continue to operate in a practical stalemate in which the Depot Caucus supports Core and fifty-fifty provisions and OSD offers proposals that ask for complete repeal of provisions (particularly fifty-fifty) without offering a comprehensive plan for depot maintenance management.

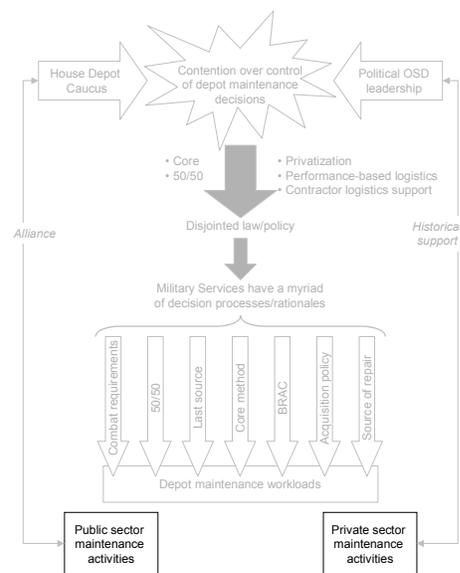
The troublesome aspect of this stalemate is that influential Congressional stakeholders seem to view their efforts as part of a bigger battle with those in the OSD who they view as wanting to do away with the public-sector depot system. OSD has fed



¹³³ PwC and LMI, *DoD Core Depot Maintenance Policy/Methodology Report*.

this perception by demonstrating no organizational preference to truly manage this area, while repeatedly asking Congress to “trust me” and repeal legislation that protects public-sector depots. There is also a view within the Depot Caucus community that the fifty-fifty split for depot maintenance workload is “just about right”; the grounds of that rationale are seemingly based upon the calculus of political interests that inform it. However, the basis for that pronouncement is difficult to defend in objective terms.

The fourth problem created by the current pattern is that depot maintenance activities are continually viewed as sectors, not as organizations that possess potentially complementary capabilities. The acquisition community within DoD primarily favors the private sector maintenance activities and the public sector maintenance activities largely perform work on older systems. This causes the Military Services to overlook opportunities for solutions to depot maintenance needs through potential integration. Decisions about provision are forced to consider whether those capabilities are in the public sector or the private sector as a major factor. Not only is it difficult to get beyond sector aggregation in this approach, but there is no capability to discern overall critical capabilities for the DoD.



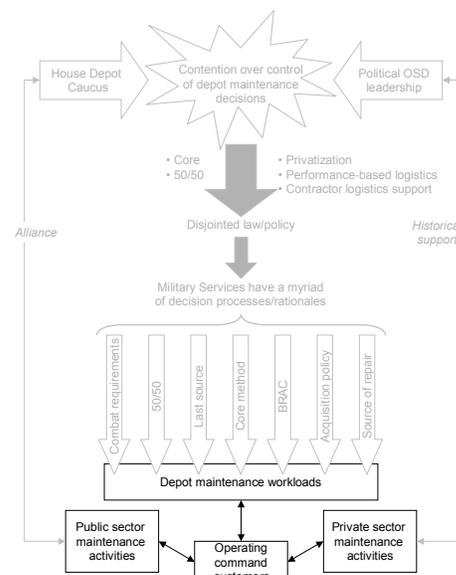
The fifth problem created by the current framework is that its negative consequences are reaching the operating commands, which are the soldiers that ultimately use repaired materiel. They are not currently active participants in, or informed observers, of the depot maintenance provision decision processes that occur. While their intimate involvement is certainly not required, their perspective and “lessons learned” regarding how depot maintenance processes

affect their readiness and capability to effectively respond to dangers are valuable information and have not been the focus of provision decisions since the early 1990s.

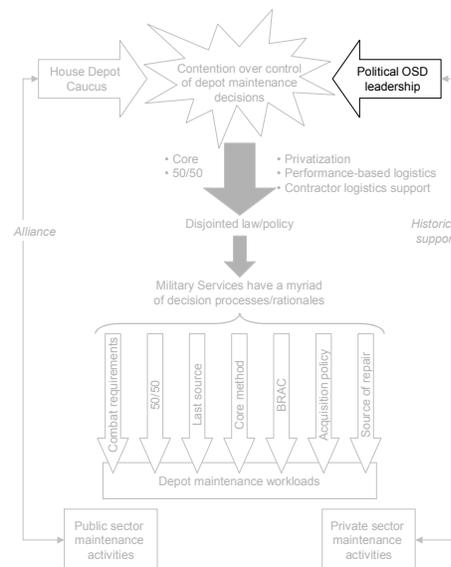
Since that time, the focus has been primarily on how the maintenance infrastructure would be shrunk and aggregated among sectors. While this is understandable on some level, given the tremendous amount of change that has occurred, these soldiers are the ultimate customers of repaired materiel, and operating command readiness has clearly not been the starting point for many of the discussions that have occurred on this topic.

A related issue is that operating commands are being given more funding and authority to choose their combat logistics support arrangements, including some aspects of depot maintenance provision. This seems to be caused by the overall increased reliance on contractor logistics support. While there are some advantages to this occurrence, the notion that a field commander should be concerned about getting the best deal he can on maintenance services is problematic in a very serious sense. As a very senior military logistician indicated, “We have done a super job of turning our soldiers into customers, rather than objects of our affection.” (This problem will be further discussed in the following section.)

The sixth problem created by the current framework is that certain organizational units, particularly within OSD, have been marginalized while the struggle over the control of the depot maintenance provision decision process has occurred at the leadership levels within DoD and the Congress. These marginalized groups have charters to engage in many of the substantive issues that inform depot maintenance provision, but have not been afforded the opportunity to sponsor



proposals because the overall environment has been focused upon contentious issues that pit Congress versus the DoD. An example of a marginalized group is the Office of the Assistant Under Secretary of Defense (Maintenance Policy, Programs, and Readiness). (The potential inclusion of some of these marginalized groups will be further addressed in my discussion of the Strategic Improvement Agenda (SIA), which occurs after the following discussion of the importance of the problems identified.)



The Importance of These Problems

The problems identified in the current framework bear upon issues of institutional legitimacy and organizational effectiveness. First, the preoccupation with “control” of the depot maintenance provision decision seems to have hurt the relevance of the depot maintenance enterprise within the military’s operating communities. To the combat soldier, depot maintenance is not an issue of hometown politics or the virtues of one sector over another; rather, it means getting the gear that he or she needs fixed and returned in the most responsive and effective manner possible. Depot maintenance is generally viewed by these groups as a parochial issue that is fraught with political undertones. This leads to a perception that it is very difficult to view depot maintenance as a flexible capability that can be defined and integrated into a dynamically changing combat environment. Thus, an institutional relevancy issue has been raised.

The “need” to control the outcomes of the provision decision in the ways it has been defined assumes that it can be aggregated in some sense and “produce” things like a mechanical fifty-fifty split of workload. This frame of reference supposes that there are predetermined goals that can be

met through specific outputs; however, this is a mischaracterization that has made the depot maintenance infrastructure fall victim to the kind of “segmentalism” that Rosabeth Moss Kanter and others have shown plagues so many modern organizations.¹³⁴ There is compartmentalization between different hierarchical levels and decision processes and many barriers and perspectives. The myriad of processes has created fragmentation, and there is little in the way of planning for the future other than to protect the sources of support for the current troubled framework. Thus, as has been observed, problems of inaction and lack of coordination are rife.

In fact, soldiers’ needs and evolving combat and logistics concepts are driving the future viability of depots overall, and this “system” has no means to address these new notions. For example, it does not presently appear that a strong correlation has been established among key initiatives and guidance (e.g., the National Security Strategy and the Joint Vision 2020), new capabilities-based concepts (e.g., performance-based logistics), and the capabilities of maintenance depots. The constant adversarial nature of the issue has been its focus, and little sustained visibility has been afforded to the specifics of these combat guidance documents. These documents suggest the details that should drive maintenance operations. If depot maintenance capabilities cannot be applied in a meaningful way to these concepts, they may literally have no future in tomorrow’s military.

Second, the lack of assimilation that the current framework supports can become very dangerous when maintenance support demands integration. Particularly in the case of older weapon systems, it is imperative that various engineering and maintenance decisions support the overall structural integrity of the weapon system. What appears to be a particularly “smart” maintenance decision based upon cost factors (for example, for an engine) may have adverse

¹³⁴ R. M. Kanter, *The Change Masters* (New York: Simon & Schuster, 1983).

effects upon other decisions made to repair the system's wing or landing gear. The end result can potentially be overall system failure or degradation.

With regard to this issue, I was told by a senior official, "The Slinky has reached the bottom one-third of the steps." The implication of this comment, as it was related to me, is that we are achieving precisely what our system is designed to do: our support processes have been divided, based upon what is "best" for the individual providers of those services, and many times they are not required to look at the weapon system's total capabilities when performing specific maintenance tasks. Therefore, a weapon system can be provided to our soldiers that is not calibrated in terms of overall capabilities. Particularly in the case of older systems, which currently provide much of the "heavy lifting" in combat situations, the focus is difficult to achieve because the overall structural characteristics of the system become more unstable as its life cycle is extended and as more-sophisticated and "more-powerful" subsystems are continually added to it. There is an overall breaking point for the system that cannot be discerned by requirements to repair or refurbish only parts of the system. Early anecdotal evidence from various recent war-fighting situations indicates that this issue is extremely relevant.

Third, the concept of "competition," which was somewhat ironically used and currently not relied upon as a method to evaluate choices about the depot maintenance infrastructure, seems to be alive and well on the battlefield. The idea that soldiers should be doing what amounts to a bastardized version of "bargain shopping" based upon the best deal they can find for things like maintenance appears problematic to this researcher. Despite having their combat responsibilities interfered with, soldiers have been put in a position to satisfy their immediate needs.

The situation suggests a lack of responsiveness and a need to better understand these choices at a higher organizational level, albeit perhaps at one that does not currently exist.

Operating unit ability to manage multiple support sources is declining. They are faced with increased contractor support, greater operational requirements and smaller force structures, yet increasingly sophisticated and integrated systems. The dimensions of this problem are becoming more evident as the military derives lessons learned from recent combat situations.

Because maintenance support in these scenarios is becoming more like a set of multiple independent contract capabilities, the number of deployed contractor personnel is increasing for conflicts. These contracts are issued by individual weapon system and are often not centrally managed or even organized by original equipment manufacturer. Therefore, multiple contract teams are virtually fending for themselves in combat zones. This appears to be an inherently dangerous and duplicative support process in which there is no coordination mechanism and little evidence of cooperation among providers.

These conditions can be attributed, at least in part, to the fact that strictly performance-based depot maintenance support choices are mostly focused on overall system performance as part of a larger acquisition. They often do not address issues of coordination and maintenance support in a deployed environment. This suggests a need to better manage choices about depot maintenance provision so that they can address these kinds of exigencies.

The Strategic Improvement Agenda - A Way Forward

The Strategic Improvement Agenda (SIA) is now proposed to address the problems I identified that are associated with the current decision-making framework for depot maintenance provision choices. In summary, the problems that have been discerned and will be concentrated upon are the following:

- The short-term focus of the acquisition community within the Military Services as it considers depot maintenance provision decisions

- The plethora and inconsistent and uncoordinated decision-making processes for depot maintenance provision
- The stagnation of top-level Congressional and OSD stakeholders in relation to the issue
- The view of depot maintenance activities as “sectors”
- The lack of focus and involvement of operating commands in depot maintenance provision discussions
- The marginalization of various organizational elements within OSD that theoretically have greater roles in depot maintenance provision decisions

In the following paragraphs, the overall direction of the SIA will be discussed, as well as its theoretical basis and key structural and process elements. The policy entrepreneur that is suggested to support the origin of the SIA will be identified,¹³⁵ as well as the organizational framework and initial steps of the approach that could support this entrepreneur. The chapter will then discuss how various stakeholders’ positions might be addressed by the SIA and how successful it might be in solving the problems it is designed to focus upon. Finally, public-private partnerships (PPPs) will be discussed as they relate to the proposed SIA and depot maintenance provision in general.

Overall Direction

Based upon the nature of the problems observed and the stakeholder coalitions suggested, the SIA incorporates a focus upon political rationality and institutional leadership. This kind of approach is proposed so that DoD might better understand the current positions and alignment of the key advocacy coalitions as well as various organizational structural characteristics that may sharpen and improve future goals and roles in this area. It is designed to bring a fuller

¹³⁵ Sabatier and Jenkins Smith refer to this person as a “policy broker.”

appreciation of the economic factors, industrial base issues, and mission support concerns that are contained in various stakeholder positions as they relate to specific depot maintenance provision considerations.

The idea of political rationality reinforces the combination of reasoned action with coalitional activities in decision making, with a stress on the later. William Dunn¹³⁶ and John Bryson¹³⁷ are two current thinkers who emphasize the particular importance of issue definition and development as primary decision-making processes. It is through this process, in fact, that these thinkers see a unique political rationality emerge.

In this line of thought, political decision making begins with issues, which by definition involve conflict. The conflicts are over a range of activities, including ends, means, timing, advantage, reasoning, and the like. As advocacy groups wrestle towards resolution of these issues, policies and programs emerge because they are politically acceptable to involved or affected parties. Over time, more general policies are generated to capture, frame, or shape the policies and programs that have been developed to address lower-level issues in a particular way. Policies and programs, if viewed in this fashion, are fragile treaties and accommodations among the major advocacy coalitions.

In terms of institutional leadership, Philip Selznick's work provides an important structural component of the SIA.¹³⁸ While the bulk of Selznick's work involved sociological interpretations of organizational development and character formation, he is a keen observer of the dynamics of decision making. Selznick is concerned with the unique "logic" of higher levels

¹³⁶ William N. Dunn, *Public Policy Analysis: An Introduction, 2d.ed* (Englewood Cliffs, NJ: Prentice Hall, 1994).

¹³⁷ Bryson, *Strategic Planning for Public and Nonprofit Organizations*.

¹³⁸ The importance of institutional leadership is based upon Philip Selznick's, *Leadership in Administration* (Los Angeles: University of California Press, 1957).

of organizational decision-making. He developed a theory of leadership to address this higher level in which key decision makers transform functional, efficient organizations into vibrant, socially responsible *institutions*.

Selznick's prescription for sound organizational leadership at this higher level involves elements of the establishment of a social order, the on-going determination of the public interest, and a defense of critical institutional values. Selznick, while recognizing the rationality within organizations, contributes most importantly to the recognition of the complex task of institutional leadership and its decision-making functions. These include the definition of institutional mission and role, the embodiment of the institutional purpose, the defense of institutional integrity, and the ordering of internal conflict surrounding the institution.

While it would be Selznick's claim that political decision-making involves gaining support from key coalitional groups, he stresses the crucial role for leaders as architects and drivers of institutional development.

My analysis suggests that the large degree of confusion about depot maintenance sourcing decisions have contributed to a situation in which larger institutional concerns must be addressed. These concerns involve leadership issues that influence the relevance of the depot maintenance enterprise and must be addressed as the overall context in which more specific provision decision processes can be improved.

Based upon these institutional issues, the SIA proposes use of an inductive approach to begin the development of a strategic approach in this area. This means acknowledgment that consensus does not currently exist on many issues, but that solutions are possible and workable. This approach should start with an identification of individuals that represent key coalitional, not

necessarily purely organizational, roles. There are a small number of very seasoned and professional people in the defense community who are worthy of consideration.

Once individuals are considered, a path must be forged that is politically rational. This means involvement of stakeholders in the development of overall objectives that can be generated to capture, frame, and shape the policies and programs that will support depot maintenance provision decision processes within the Military Services. Institutional leadership must be employed in the sense that a person with sufficient organizational authority in this area should define and work to establish a new organizational thrust and definition of effective depot maintenance provision decision making. In this case, this involves clarifying the institutional mission and role of depot maintenance and instilling that purpose into an overarching direction that can order the internal conflict surrounding the current decision-making framework. It is hoped that such leaders will consider the stakeholder analysis in Chapter Three of this document as an informative point of departure.

Given these suggested emphases, the overall direction of the SIA is a focus upon changing the current representation of the provision problem within OSD away from its emphasis upon notions of efficiency (which has largely involved full support of private sector maintenance activities) and compliance.¹³⁹ This perspective has proven detrimental because it facilitates “either/or” kinds of perspectives and choices and is the source of several problems identified in the study. Emphasis at the OSD level should be upon effective mission support.

By making this shift, OSD will signal linkage of its perspective on the decision to that of the ultimate customer, the operating commands. Specifically, OSD should take a position that depot maintenance provision decisions will be evaluated in terms of their contribution to combat

¹³⁹ Please see Table 13 for an analysis of stakeholder positions.

readiness as the primary factor. This OSD focus should be viewed as the first step in creating the perspective that depot maintenance will be better integrated into the set of transactions and actions that meet the soldier's demands for maintenance products and services.¹⁴⁰

This shift of emphasis might then serve as a catalyst to change the Military Services' current perspective on provision decisions from control and compliance to responsiveness. This could sustain a new outlook that emphasizes overall management of maintenance capabilities to meet readiness needs. The focus will not support a division of choice based upon public and private sectors; rather, it will suggest a range of effective maintenance capabilities and organizational arrangements that best accommodate combat readiness requirements. This frame of reference will also emphasize the importance of having the acquisition communities more actively consider life-cycle and deployment issues when depot maintenance provision is considered.

As this change in focus for the desired outcome of the provision process is articulated through DoD, the current myriad of decision processes will need to temporarily continue. However, OSD should support analysis of this range of decision-making processes within the SIA, which suggests a forum that can suggest alternatives that address these processes in light of the new overall primary objective. This analysis should eventually lead to an articulation of specific ways in which current processes can be improved or discontinued in light of the emerging overall objective.

Over time, a new set of decision processes should be developed that can provide more consistent and credible results. The best of these should be pilot-tested and proposed to OSD and Congressional leadership. These proposals should be the basis for legal or formal policy modifications that the demonstrated change of focus and supporting decision framework justify.

¹⁴⁰ Gansler and Luby, eds. *Transforming Government Supply Chain Management*.

Theoretical Basis and Suitability

On what grounds should DoD adopt the Strategic Improvement Agenda (SIA)? After all, this study indicates that the current problematic decision framework is as highly programmed as it appears problematic. The conflictive legal and policy requirements that support it are very specific and require many formal organizational activities. There currently is no opportunity within this environment to develop new goals or a fresh perspective on the framework because all stakeholders are involved in it and, therefore by default, in some sense protect the sources of support that buttress its existence.

Also, the current set of decision procedures is very well entrenched throughout the organization. Change in this case is very much an uphill battle. It has been observed that, in these kinds of complex organizational situations, arguments that support change and innovation must be stronger than those that support the status quo because perceptions and activities that support such established activities become quite strong and entrenched.¹⁴¹ We have seen this entrenchment in the history provided in Chapter Three.

Two kinds of rationales are proposed to address the complexity and entrenchment observed. One is based upon the need for agenda-setting and the distinction among organizational levels and interests that could support change. The second is the notion that if change is to occur, it must involve implementation steps that explicitly take stakeholder perspectives into account.

The first is arguably conceptual in nature, but is most important. Based upon the problems identified in the current decision-making framework, DoD leaders who have the authority to influence changes must acknowledge that they are confronting novel situations in

¹⁴¹ Cyert and March, *A Behavioral Theory of the Firm*.

terms of the requirements for depot maintenance and will need to depart from past experiences and their associated program configurations in order to address them.

When approaching this issue, these individuals are facing agenda-setting activities for a very complex organization in which redefinitions of the focus and ultimate aim of depot maintenance provision decisions should occur. This is a difficult sort of undertaking, but is what is necessary. It is difficult because it involves qualities of institutional leadership. A senior Military Service representative who was interviewed as part of this study indicated that even a few meetings of a strategic nature sponsored at the OSD level on this topic would be helpful. He suggested that the problems identified with the provision decision framework could actually be symptoms of larger problems that are as fundamental as they are long-standing.

From a structural standpoint, then, the proposed Strategic Improvement Agenda (SIA) suggests an understanding of the various coalitional perspectives on the depot maintenance provision choice by making distinctions among organizational levels. This is supported by James D. Thompson's Levels Model¹⁴² in which he observes that various perspectives often suit a different level of the organization:

- The *institutional* level—that part of the organization that relates the organization to its wider environment, determines its domain, establishes its boundaries, and secures legitimacy.
- The *managerial* level—that part of the organization responsible for designing and controlling the production system, for procuring inputs and disposing of outputs, and for securing and allocating personnel.
- The *technical* level—that part of the organization carrying on the production functions that transform inputs into outputs.

This viewpoint suggests that DoD political elites and leadership have a responsibility to generate and lead discussions as agenda-setting opportunities at the institutional level in which they can actively identify and establish points of congruence or needed change in the various perspectives and agendas of each level of the organization. This idea is consistent with what

¹⁴² James D. Thompson, *Organizations in Action* (McGraw Hill: New York, 1967).

Sabatier and Jenkins-Smith term the “secondary aspects” of policy contexts. Given the perspectives and problems identified in this study, it is suggested that a focus upon the relationship of depot maintenance capabilities to combat readiness be proposed as a key focal point for these discussions. This focus could potentially move the discussion away from normatively charged dialogue about “sectors” into discussions that focus upon concrete aspects of maintenance capabilities (regardless of the sector that provides them) that contribute to improved readiness.

The stakeholder analysis provided at the conclusion of Chapter Three provides a baseline for the kinds of comparative perspectives that form the current depot maintenance decision-making structure and need to be carefully considered by DoD leadership. If institutional leaders can recognize their own, as well as other, important perspectives on the issue, and generate dialogue that addresses the interests of each group, it is feasible that the more specific and enduring changes could emerge and endure because they address managerial and technical areas of concern.

The result of such an approach could be a clearer connection of the DoD depot maintenance enterprise to warfighter needs. This enterprise could capitalize on the strengths of both public and private sector maintenance activities and, over time, change the dynamics that have resulted from the current coalitional dynamics, in which each sector has been “advocated” by institutional elites as a kind of “end in itself.” As has been discussed, this focus of dialogue has marginalized key players and made depot maintenance primarily an institutional political issue, rather than one of military mission support.

If viewed in this fashion, the changes that could result from the SIA involve rearranging incentives to make addressing the problems in this area of interest to the important advocacy

coalitions that contribute to it. As contemporary researchers have noted, this is arguably the most positive function for an institution and the most significant for strategy.¹⁴³ The SIA recommends beginning with a series of activities that focus upon *agenda setting* for the depot maintenance enterprise as the first problem to be solved. Source-of-repair decisions become nested in the results of these kinds of discussions. These sessions could establish a more focused direction for the enterprise and therefore a more consistent baseline to begin more specific discussions about the goals and types of decision processes that are most appropriate for various types of depot maintenance provision choices. Should they occur, the discussions would also send a clear message to those concerned with this area that a renewed focus is being applied to it, which, as several authors have noted, is an important initial step.¹⁴⁴

The second type of grounding for this approach is more pragmatic in nature. It addresses the sorts of implementation concerns that support the approach and the chances of its successful implementation.

A fundamental need is to have a general concern for goal clarity as the framework is developed. This is often an effective way to bring focus to “unprogrammed” strategic types of activities that interfere with routines and entrenched perceptions. Over time, OSD should consider ways to allocate resources to goals requiring unprogrammed activity and refuse to provide substitute or alternate goals that can be reached by current programmed activity.¹⁴⁵ The

¹⁴³ Glen Dowell, Anand Swaminathan, and Jim Wade, “Pretty Pictures and Ugly Scenes: Political and Technological Maneuvers in High Definition Television,” in *The New Institutionalism in Strategic Management: Advances in Strategic Management*, vol. 19 (New York: Elsevier, 2002).

¹⁴⁴ Michael Harmon and Richard Mayer, *Organization Theory for Public Administration* (Boston: Little, Brown, 1986).

¹⁴⁵ March and Simon, *Organizations*, 207.

need to constantly force clarification of interests and get stakeholders to embrace goals that seem plausible and vital in terms of their interests is very important in this area.¹⁴⁶

Also, the notion that there are multiple stakeholders in the decision-making process must be continually acknowledged. Many people are needed to receive information, to make decisions, and to direct action. The SIA assumes that choices will evolve and be amended through action, rather than being made definitively at a single moment. This requires that DoD blend analysis, organizational politics, and stakeholder needs to move forward. This type of approach can build credibility, legitimize a new point of view, broaden political support, and create pockets of commitment. As Charles Lindblom noted, strategically oriented policy needs to be informed by broad futuristic thinking while undergoing incremental adjustments along the way.¹⁴⁷ Also, Sabatier and Jenkins-Smith offer specific considerations in their hypotheses that accompany the ACF to facilitate such activity. They include identification of an intermediate level of conflict that can be reasonably debated as well as forming cross-coalition groups that entice members from different coalitions to participate.

To this end, the SIA emphasizes the need to take political contexts into account. This is done by a suggested series of “metaplanning” steps that focus on ways that the design of the overall approach can incorporate the viewpoints of multiple stakeholders, and work to decompose normative policy core issues into secondary issues that can be debated and used as a source to improve the decision-making process. This idea has been proposed for public

¹⁴⁶ Kronenberg, “Chaos and Re-Thinking the Public Policy Process.”

¹⁴⁷ Charles Lindblom, “Still Muddling, Not Yet Through,” *Public Administration Review* 29, no. 6 (November 1979): 517–526.

organizations by such scholars as Bryson¹⁴⁸ and Kovach and Mandell.¹⁴⁹ In fact, some scholars argue that the assessment of key stakeholders should take precedence over other areas of concern.¹⁵⁰

Finally, if DoD can focus upon redefining the overall problem to be solved with depot maintenance provision choices and therefore set the stage for new law and policy in this area, the timing of such activity could potentially mesh well with a concept that John Kingdon refers to as a “trigger event” in the development of the structure of decision choices. He argues that there is the “political stream, the policy stream, and the problem stream” surrounding issues of agenda setting, such as we are examining in the context of depot maintenance provision. The political stream includes swings in national mood, elections, and ideological distributions that influence agenda setting. The policy stream is the series of ideas for solutions that surround a particular issue and form combinations and re-combinations at various points in time. The problem stream describes the series of conceptions of what the true issue is that the policy stream needs to address.

In Kingdon’s view, policy triggers can cause the streams to find each other in instances of opportunity that often are spurred by key organizational actor, or policy entrepreneur. These triggers include changes in the collective understanding of problems, changes in political power, and possible new ways of dealing with problems (e.g., a focusing event). Using these streams as focus points, Kingdon describes a range of policy changes that are based upon

¹⁴⁸ Bryson, *Strategic Planning for Public and Nonprofit Organizations*.

¹⁴⁹ Carol Kovach and Myrna P. Mandel, “A New Public-Sector Based Model of Strategic Management for Cities,” *State and Local Government Review* 22, no. 1 (winter 1990): 27–36.

¹⁵⁰ John R. Montanari and Jeffrey S. Bracker, “The Strategic Management Process at the Public Planning Unit Level,” *Strategic Management Journal* 7, no. 3 (May–June 1986): 251–265.

patterns of attraction among decision makers, problems, and solutions, and the “eventual solution” to problems.¹⁵¹

Several circumstances indicate that such a trigger event could occur in this area, should activity in the problem definition and policy area occur. In the political arena, a fresh set of political appointees is likely in the near future. Also, there are indications that the current composition of the House Depot Caucus is changing and that even the Caucus in the current 108th Congress is a bit weaker. Former Representatives Tillie Fowler of Florida, J. C. Watts of Oklahoma, Jim Hansen of Utah, and Bob Riley of Alabama, all Caucus executive committee members, have retired. In addition, former Representative Saxby Chambliss of Georgia, another Caucus executive member, moved to the Senate. The loss of Fowler, Watts, and Chambliss means that the Caucus is no longer ensured a voice in the House leadership where, from their respective positions, they could look out for public-sector depot interests when legislation moved to the floor. Following the retirement of former Representative Glen Browder of Alabama in 1996, Representative Solomon Ortiz became the predominant Democratic voice in the Caucus. As ranking member of the HASC Readiness Subcommittee, Ortiz is strategically placed to protect the public depot interests, but from a weaker position because of his current minority political status.

In addition, results from the current BRAC round of public-sector depot maintenance activity closures are scheduled to be announced in spring 2005. So a new and likely relatively stable set of public-sector depot maintenance activities will be established.

There is also new leadership in the position of the Assistant Deputy Under Secretary of Defense (Maintenance Policy, Programs, and Resources) [ADUSD(MPP&R)]. The current

¹⁵¹ Kingdon, *Agendas, Alternatives, and Public Policies*.

holder of that position, which is a permanent Senior Executive Service civilian title, has indicated initial interest to address critical problems that exist in his area of responsibility. Because of his position and background, he is a very important person in this approach and is central to managing the alignment of problems, policies, and positions that could indeed “trigger” the types of organizational focus that are instructive. His suggested role and importance, based upon his formal responsibilities, is discussed in the following section.

The Policy Entrepreneur

While the concepts that underlie the SIA strongly emphasize the need for involvement by the stakeholders involved, they must be also be embraced by an individual who can sponsor, understand, and influence the overall direction of the effort. A major shift in perspective often requires the championing of a novel point of view and insight to challenge established assumptions, including the set categories of strategy and decision-making structures.¹⁵² The linchpin to the success of the SIA is an individual who is positioned to determine and manage the kinds of emphases and changes it suggests and is also interested in its successful outcomes. This person has been called a policy entrepreneur (or “policy broker” in the ACF) or institutional leader (Selznick). The fundamental task facing this person is to create the appropriate systems of shared understanding that can mobilize the efforts of people in pursuit of the framework’s desired aims and objectives. This individual plays a pivotal role in detecting the need for change and has an “ear to the ground” in reference to shifts in crucial developments.¹⁵³

In this case, this individual is the newly selected Assistant Deputy Under Secretary of Defense (Maintenance Policy, Programs, and Resources) [ADUSD(MPP&R)]. Within the Office

¹⁵² Henry Mintzberg, *The Rise and Fall of Strategic Planning: Reconceiving Roles for Planning, Plans, and Planners* (New York: The Free Press, 1994).

¹⁵³ Boris Yavitz and William H. Newman, *Strategy in Action: The Execution, Politics, and Payoff of Business Planning* (New York: The Free Press, 1982).

of the Secretary of Defense, he and his staff are responsible for policy and decision-making guidance for depot maintenance provision. They also provide functional expertise for maintenance policy and management oversight for all weapon systems, military equipment maintenance programs, and related resources within the military. The office's current goals are to establish and maintain maintenance policies and programs that are managerially and technologically sound and adequately resourced to maintain the desired levels of weapon systems and military equipment readiness to accomplish the military's missions.

Historically, the office has contributed to Congressional understanding of DoD maintenance requirements and programs and has responded to directions and provisions of law affecting weapon systems and military equipment maintenance by converting such requirements into policies and programs.¹⁵⁴

Based upon observations made in this study, this office, while officially charged with managing the kinds of efforts that the SIA suggests, has been somewhat marginalized and concerned largely with legal compliance issues and implementing mandates offered by OSD political leadership. This is primarily due to the fact that political leadership would not entertain much in the way of infrastructure support for the public sector depot establishment. The new leader offers a foil to this role because of his background in one of the military system's commands and his established reputation as one who focuses upon the cause-and-effect relationships of maintenance-related decisions on overall program effectiveness and ultimately on the operational user. He has based the latter stages of his career primarily on working to build approaches that integrate logistics efforts more closely with acquisition engineering and

¹⁵⁴ U.S. Department of Defense, http://www.acq.osd.mil/log/logistics_materiel_readiness/organizations/mppr/html/aboutmp.html (accessed 15 September 2004).

industrial operations competencies. Endorsement and management of the SIA by this individual are imperative and would integrate very well with initiatives he has already endorsed related to analysis capabilities and tools that each of the Military Services employs to measure maintenance capabilities, process, and products in relation to materiel readiness.

Supportive Organizational Framework

The ADUSD(MPP&R) will need to be able to mobilize groups that are important to the SIA's success, while not creating what could be perceived as a new layer of bureaucracy. For this purpose, he should utilize a group called the Maintenance Technology Senior Steering Group (MTSSG), of which he is the chair. The MTSSG is chartered to oversee the Department's interest in improved maintenance-related technologies. It also provides a forum to share programmatic, investment, and technical information. The MTSSG's major focus is to provide visibility and assistance in the coordination of the logistics technology initiatives of the Military Services, the Defense Logistics Agency, and the Joint Staff.

While the MTSSG's major areas of concentration are maintenance-related, it also addresses aspects of logistics support, including technology applications, business process reengineering initiatives, and policy-related developments. Its usefulness, based upon the problems identified in this study, is its cross-Service nature. It comprises senior logistics military officers of the U.S. Army, Navy, Marine Corps, and Air Force. Its current members include individuals from the Commander, U.S. Army Materiel Command; Deputy Chief of Naval Operations (Logistics); Deputy Chief of Staff (Installations and Logistics), USMC; and the Commander, Air Force Materiel Command.

As will be discussed further in the next section, the ADUSD(MPP&R) should establish and lead an Integrated Process Team (IPT) under the auspices of the MTSSG that is responsible for implementing the SIA.

The IPT concept is widely applied in DoD and refers to cross-functional teams that are formed for specific purposes and are empowered to make decisions in a given area. The key features of such teams are that they normally involve approving officials in their review and decision processes, often replace a traditional and more sequential issue review process, and take full advantage of team member's cross-functional skills.

The primary theoretical basis for the establishment of this group is Sabatier and Jenkins-Smith's focus upon the facilitating function of a forum that is able to foster policy-oriented learning across the perspectives that are represented in the primary advocacy coalitions. Early in its development, it is suggested that the SIA should focus upon the current coalitional alignment within the DoD as it bears upon depot maintenance sourcing decisions and then approach Congressional leadership with an institutionally based program.

The use of this organizational body to improve decisions about depot maintenance provision is of greatest importance because it offers a forum to link acquisition-and-logistics concerns that bear upon these decisions. Because the ADUSD(MPP&R) reports to the Under Secretary of Defense (Acquisition, Technology, and Logistics) through the Deputy Under Secretary of Defense (Logistics and Materiel Readiness), he is positioned to convey results of recommendations that the IPT eventually sponsors directly to the chief acquisition official within the Department. Even if little else is accomplished by the IPT, this linkage, with a focus upon the problems that have been identified in this study, would be beneficial as a point of departure. The linkage suggested by use of the MTSSG IPT to develop and implement the proposed framework is provided in Figure 13.

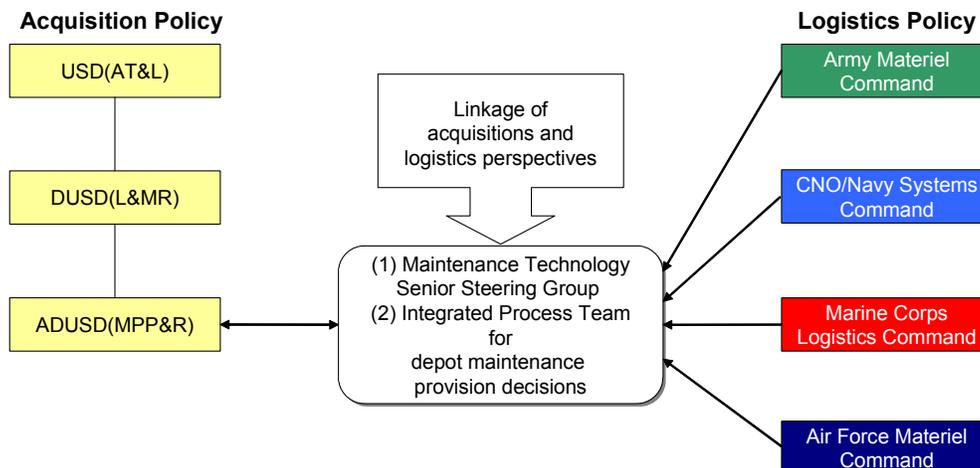


Figure 13. Linkage of Acquisitions and Logistics Perspectives

Initial Steps of the Strategic Improvement Agenda (SIA)

The first wide-ranging requirement for implementation of the SIA is that the ADUSD(MPP&R) be the overall champion who is willing to sustain it. The IPT could then work to negotiate agreement between itself and key internal decision makers as to the overall goals of the process. It is suggested that this IPT meet several times shortly after the planned BRAC decisions are announced in spring 2005, because major infrastructure decisions will have been made during this process that should figure heavily into strategic discussions surrounding depot maintenance provision choices. Several topical areas are suggested for discussion by the IPT, based upon the notion that improvement to the current decision-making framework is not simply the result of competition among various interests, but that policy-oriented learning within and between coalitions is an important aspect of improvements. The group could first consider the strategic environment for depot maintenance and how depot maintenance and the capabilities it represents are integrated into current/future acquisition and logistics planning. It might also assess how depot maintenance can be most effectively evaluated from a mission orientation. Second, it might ask what a “transformed”

depot maintenance enterprise would entail, and how a modified approach for provision decisions support would contribute to this vision.

There would also be logistical elements to consider, the specific overall purpose of the proposed IPT effort, preferred steps in the process, the role, functions, and overall membership of the IPT, and key tenets of the IPT process.

An example of such tenets could include a perspective that public-sector and contract depot maintenance capabilities should be viewed as an integrated entity or that the IPT should work to establish processes that manage the depot maintenance enterprise, not just its sources. Issues such as current Congressional interest areas, opportunities for policy development and articulation, and key leadership roles should be explored.

As a result of its initial discussions, it is recommended that the IPT clearly identify the strategic issues that currently surround depot maintenance and inform specific depot maintenance provision decisions. A statement of strategic issues should result. Each strategic issue should have three elements.

First, the issue should be described succinctly, preferably in a single paragraph. The issue should also be framed as a question that the set of organizations involved can do something positive to answer. Second, the factors that make the issue a fundamental challenge should be listed. Third, the leadership forum should prepare a statement of the consequences of failing to address the issue. These specific issues and the consequences of not addressing them should be compiled and reviewed by the group and issued in draft form for discussion purposes.

It is also recommended that the IPT consider preparing a formal statement of these issues, once vetted informally, to Congressional staffers and other stakeholders, to demonstrate the basis for

a long-term depot maintenance strategic-planning process. This step would also be an important signal of cross-coalitional activity and set the dialogue at the institutional level of interaction.

This set of issues could then become the basis for specific strategies and plans within the IPT. Strategic issues that can be anticipated will be in the areas of depot maintenance workload, workforce, and capital investment dimensions. The IPT should be assigned with administering proposals to address the issues and the actions that must be taken to implement the proposals to address them. The scope of these proposals will determine the longer-term composition of the IPT and specific measures of success that need to be established.

Finally, the overall set of strategies and plans should be incorporated into a strategic-planning document that shows enterprise commitment and current and planned action for improved depot maintenance management and decision making. Table 13 provides a suggested high-level implementation plan for the Strategic Improvement Agenda (SIA), including a timeline, participants, key activities, and expected outputs for the process just described.¹⁵⁵

Table 13. A High-Level Initial Implementation Plan for Strategic Improvement Agenda

Time Frame	Participants	Activity	Output
Spring 2005	Integrated Process Team (IPT) that reports to ADUSD(MPP&R)	Series of three meetings to develop and articulate purpose, goals, and composition of depot maintenance strategic-planning actions	Guidelines for strategic activity
Fall 2005	Depot Maintenance Provision IPT	Series of three workshops to identify the strategic issues that are facing depot maintenance as an enterprise, including the consequences of those issues	Formal articulation of strategic issues and consequences
Winter 2005	Depot Maintenance Provision IPT	Two sessions to assign strategic issues to champions	Plan for receipt of specific plans and activities to address the strategic issues

¹⁵⁵ This specific approach is a modification of a general approach suggested by Bryson in *Strategic Planning for Public and Nonprofit Organizations*.

Table 13. A High-Level Initial Implementation Plan for Strategic Improvement Agenda

Time Frame	Participants	Activity	Output
Spring 2006	Depot Maintenance Provision IPT	Session to review specific plans developed and overall framework for integrated strategic-planning document	Initial strategic-planning document for a depot maintenance long-term strategy

Two points should be noted in the discussion of this high-level implementation plan. First, discussion and consideration of the actual depot source-of-repair decision is “nested” in much broader strategic activities. This is necessary based upon the current lack of agreement on approaches and the problems with the current decision framework. Specific provision decisions will not be treated strategically if they are not viewed from a larger perspective and discussed in the context of enterprise maintenance capabilities.

Second, several of the individual Military Services have existing strategic-planning documents that address depot maintenance provision. While these efforts have not been undertaken at the DoD level, several approaches could be reviewed as part of IPT discussions. Some of the processes that should occur at the Military Service level, but should be monitored and perhaps integrated at the OSD level, include things such as an annual review of depot maintenance management improvements—in both sectors, or as combined entities and methods to improve the tie of depot maintenance strategic planning to resources through the DoD’s Planning, Programming, and Budgeting System.

In the context of the strategic-planning process just described, it is anticipated that the depot maintenance source-of-repair decision process would be viewed more strategically and (potentially) centralized for certain commodities or systems, such as older legacy systems. This is because economies of scale and a build-up of expertise in certain maintenance activities would support logical provision choices based upon the workload under consideration. Decisions may also more explicitly consider risk factors and industrial-base issues, as well as overall logistics

support costs, in allocating depot maintenance workloads across a wider spectrum of public-sector depots, commercial repair activities, and public-private hybrid maintenance facilities. Considerations might also necessitate issuance of waivers from fifty-fifty requirements or a repeal or modification of 10 U.S.C. 2464 provisions regarding Core capabilities. This will depend upon the iterative, strategic process that DoD should employ to reach such exigencies.

The depot maintenance workload allocation process that eventually results from the SIA could specifically address significant industrial-base concerns (e.g., protecting essential depot maintenance capabilities, regardless of whether those capabilities are in the public or private sector; and affording more comprehensive oversight for critical sources of repair). Most important, it could provide a more solid foundation for assessment of essential depot maintenance capability requirements from the war fighters' perspective and illuminate how to achieve the best mix of public and private depot maintenance capabilities to support those requirements within the context of overall logistics support objectives.

Figure 14 portrays what could eventually result from the proposed Strategic Improvement Agenda (SIA) for depot maintenance provision, with source-of-repair evaluations and decisions included as an aspect of this framework.

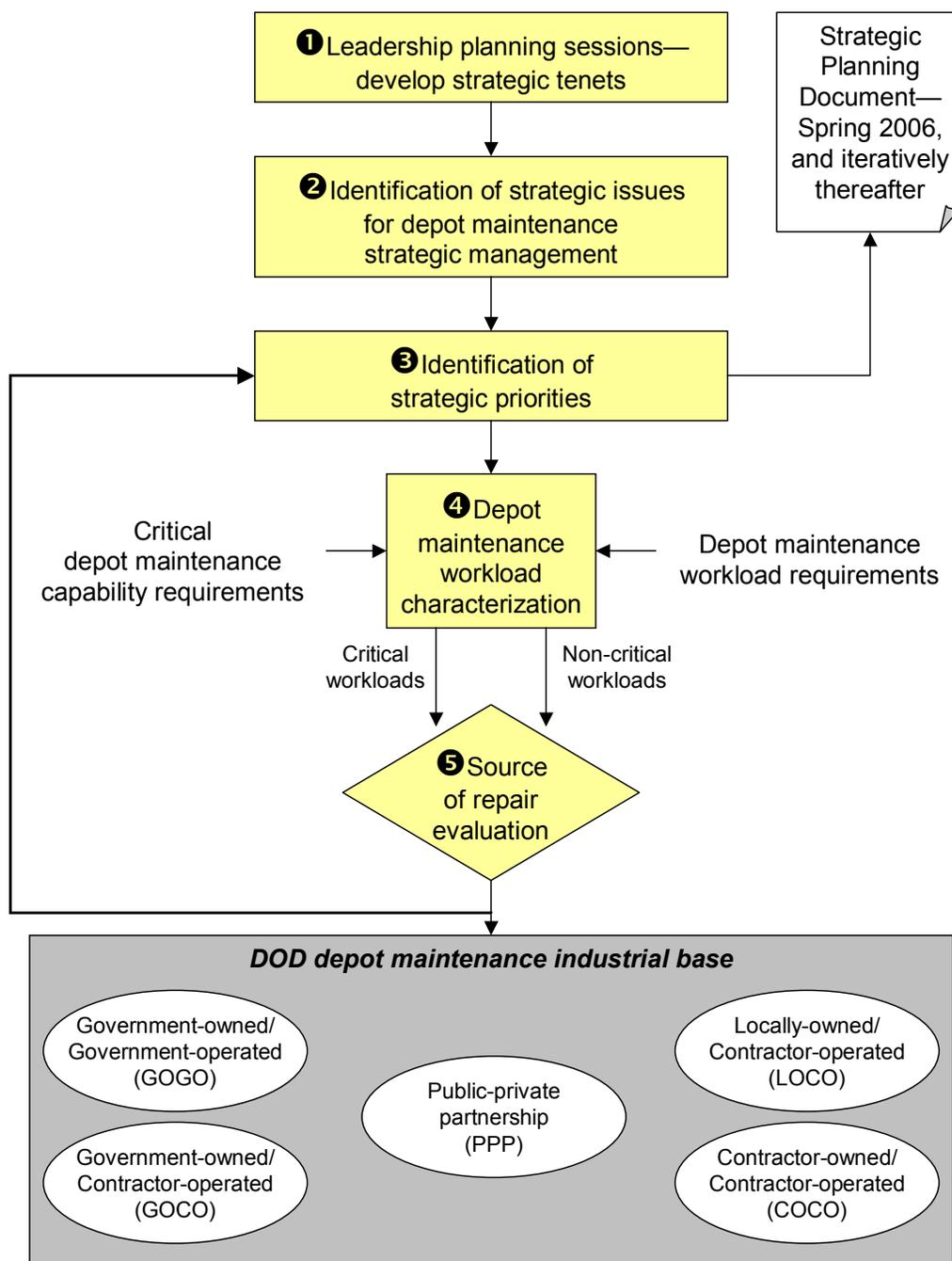


Figure 14. Depot Maintenance Sourcing Decisions in a Strategic Context

According to the draft milestones provided, by Spring 2006, DoD could realistically produce a draft strategic plan for depot maintenance and its provision characteristics that is reflective of strategic priorities in this area.

The numbering scheme reflected in Steps 1–5 in the previous figure emphasizes a characterization of depot maintenance workloads in Step 4 and a formal source-of-repair evaluation in Step 5. These steps would occur after the initial strategic issue and priority activities in Steps 1–3, which have been discussed in a recommended time sequence.

While the specifics of these approaches would be addressed by the IPT, this type of source-of-repair evaluation process would begin with a review of customer needs followed by an examination of the source-of-repair characteristics that are most important for satisfying those needs. A subsequent evaluation of alternative sources compared with key value factors could then indicate the extent to which the alternatives possess the requisite characteristics. The basic decision process should involve the valuation of established factors, integration of these factors in a simple mathematical model, interpretation of results, and holistic assessment. Many of these proven source evaluation techniques exist in the Military Services. Quantitative techniques such as multi-attribute utility analysis may be helpful in converting disparate and/or subjective evaluations into figures of merit that are relatively easy to interpret. However, because precise numerical scores can give the results more credence than they deserve, a final holistic review should also be performed.

Also, this approach suggests that depot maintenance workloads and the capabilities they sustain for the DoD begin to be characterized as “critical” rather than “Core.” The current legal framework suggests that Core capabilities must reside only in the public sector, and this is problematic because “critical” capabilities, which may reside in the private sector, must be

managed just as intently as “core” capabilities. The fact is that critical maintenance capabilities, that are important for DoD to nurture and manage, can and do reside in both sectors. The current legal definition of “core” masks that importance, although it does contain notions of accountability that are significant in the context of military mission support.

Stakeholder Considerations

The stakeholders reviewed in this study are likely to react to the SIA in the following ways. Congress, particularly the House Depot Caucus, has repeatedly asked DoD for the kind of report that implementation of the SIA could yield, so it will be very interested in the process, but ultimately satisfied if OSD can demonstrate an approach that appears to be sound and coherent. There will also most likely be some areas of contention from members, primarily in those districts and states that were negatively impacted by the BRAC process. However, if a DoD institutional focus upon the depot maintenance contribution to combat readiness is articulated, with an acknowledgement of the various coalitional perspectives that bear upon the issue, the dialogue could begin with mutually debatable issues.

In addition, on the political side, new OSD leadership will need to be quickly educated on the issues and the approach that the ADUSD(MPP&R) is managing. Convincing arguments will need to be made that this is the appropriate course to take and that the sector vs. sector arguments are detrimental to improving management in this area.

The acquisition communities within the Military Services will most likely be somewhat resistant to this approach and its possible outcomes. To buffer this situation, the logistics community leaders who are suggested for participation in the MTSSG IPT will need to be persistent in moving forward and should work to create early influential champions within the acquisition community who see the value of better-integrated depot maintenance sourcing

decisions. With the need to make depot maintenance source-of-repair decisions for DoD's only major weapon system procurements (the F-22, Joint Strike Fighter, and Stryker programs) anticipated within the next five years, a more constructive relationship will be important, particularly for positioning public-sector depot maintenance capabilities. The ADUSD(MPP&R)'s central relationship within both communities, as discussed above, is also important as a collaborative mechanism here. Interviews conducted as part of this research indicate that key members of the logistics community would react very favorably to the kind of approach suggested by the SIA.

The public-sector depot maintenance activities that remain after the BRAC 2005 process will be eager to engage in discussions that entertain their long-term strategic viability in the depot maintenance enterprise, and private-sector depot maintenance activities will also be very interested in participating. The proposed IPT will need to address how best to involve these groups and/or have them represented as strategic issues for the enterprise are derived. The most important consideration here is that the policy entrepreneur must begin to change the tenor of the Congressional and primary OSD dialogue on the topic. As will be discussed in the section on Public-Private Partnerships later in this chapter, each group seems increasingly committed to being involved in depot maintenance sourcing arrangements that provide the most effective support to the warfighter. In terms of coalitional behavior, this trend could be leveraged by OSD to begin to establish the aforementioned depot maintenance enterprise, which could provide initial changes to the problematic current coalitional arrangements.

Finally, the operating commands will be initially skeptical of the approach and will need to be convinced that the whole focus of discussions in this area is primarily concerned with better supporting their needs. The MTSSG IPT should initially begin by establishing ways that current

lessons learned that reflect combat logistics and maintenance support problems could be ascertained and become part of the IPT's initial strategic discussions on depot maintenance provision. More-formal involvement with these groups could then occur with this baseline of knowledge established.

Problem “Scorecard”

This study identified the following six problems from the historical and stakeholder analysis provided:

1. The short-term focus of the acquisition community within the Military Services as it considers depot maintenance provision decisions
2. The plethora of decision-making processes—many of them inconsistent and uncoordinated—for depot maintenance provision
3. The immobilization of top-level Congressional and OSD stakeholders in relation to the issue
4. The view of depot maintenance activities as “sectors”
5. The lack of focus and involvement of operating commands in depot maintenance provision discussions
6. The marginalization of various organizational elements within OSD that theoretically have greater roles in depot maintenance provision decisions

As a result of the Strategic Improvement Agenda (SIA) suggested in this chapter, each problem is addressed and has been placed in the context of the need to change objectives, perspectives, and processes related to depot maintenance provision decisions.

First, the problem of marginalization of groups is addressed by positioning the ADUSD(MPP&R) as the champion and focal point for the improvement effort. If this person can understand the perspectives of the managerial and technical perspectives of the layers of DoD as

well as the coalitional positioning that underlies this structure he may be able to establish momentum within the DoD to address the serious problems in this area. Also, this kind of leadership focus links the OSD perspective on the issue with the operating commands (which is effective maintenance support—regardless of who provides it). As we know the operating commands are the ultimate users of maintenance services. If they recognize the new focus and begin to participate in improvements based upon it, greater long-term results can be expected.

The second set of problems is addressed in the proposed framework in the area of perspectives. This involves changing the short-term focus of the acquisition community and the “sector” view of maintenance capabilities that exists in provision choices, as well as the immobilization that has occurred at the higher OSD and Congressional levels. This could happen as the new objectives are set by the IPT and it focuses upon secondary issues over which reasonable debate can occur. While the over-arching normative orientations of the two major advocacy coalitions will be very slow to change, new perspectives at the DoD leadership level can potentially emerge with a focus upon quantitative and specific issues that can be debated and informed through open lines of organizational communication with legislative leaders.

The final stage of the SIA in which the problems are addressed is its process dimensions, which will specifically address how best to make provision decisions for particular weapon systems. As has been suggested, the probable outcome from this review will be how to determine critical depot maintenance capabilities (regardless of the sector in which they reside), based upon a number of factors and the range of possible support arrangements.

Figure 15 describes the sequence in which the six problems identified in the study should be addressed in the context of objectives, perspectives, and processes that comprise the SIA.

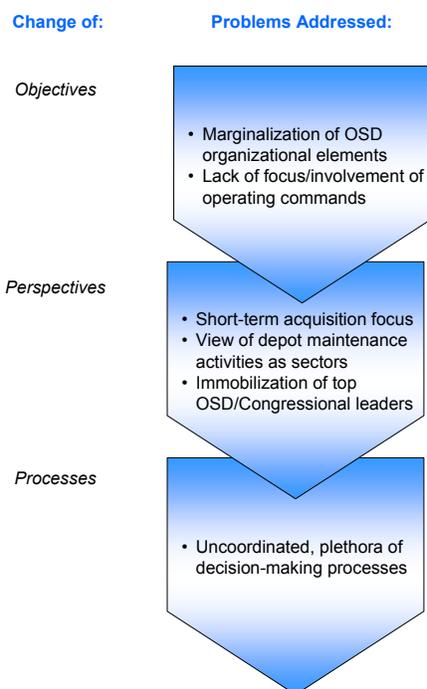


Figure 15. Sequencing to Address the Problems Identified in the Current Framework

Public-Private Partnerships

As the SIA is implemented, an area that does warrant discussion and that appears to offer a degree of promise in terms of demonstrating how depot maintenance might be conceived of and managed in a strategic fashion is public- and private-sector partnering. This approach blends former contract and public-sector distinctions. The Military Services are increasingly using partnerships between the public and private depot maintenance activities. While the Congress and industry initially viewed partnerships with skepticism and embraced them begrudgingly, Congressional support in the past five years has grown to the point that Depot Caucus members now offer legislative amendments to enhance partnering. Partnerships are now viewed as a promising development that could become cost-effective for government and profitable for industry.

For example, partnering is the primary tenet in the Air Force's long-range depot strategy. This is an early indication that the Services view partnerships as complementary to government capabilities, not competitive with them, enabling smoother transition from production to support. Early partnership pioneers indicate they may expand their existing partnerships or create new ones because of their proven profit potential.

Historically, the DoD has used partnering arrangements to help sustain Core depot maintenance capabilities, use underutilized public facilities, and leverage private-sector investment in the military. Objectives of partnership under the current Section 2474 of Title 10 U.S.C. are to

- Maximize capacity use at depots;
- Reduce or eliminate the depots' ownership costs in areas such as operations and maintenance, and environmental remediation;
- Reduce the cost of products made or maintained at depots;
- Leverage private-sector investments in plant and equipment and promote commercial business ventures at depots; and
- Foster cooperation between the military and private industry.

Partnerships are receiving support at the OSD policy level. For example, the Department included public and private partnerships in its June 2002 Logistics Reengineering Initiative to meet combat support needs and operational requirements of the National Defense Strategy. The initiative stated that public and private partnerships should help address the many challenges facing public-sector depots, which include facilities and equipment severely degraded because of limitations in funds for recapitalization and an aging workforce that has shrunk by 51 percent in the past 10 years.

The initiative suggested that DoD is making efforts to improve the efficiency and viability of public-sector depots, stating that partnerships will result in creating greater private-sector investment in facilities and equipment, better facility utilization, reduced costs of ownership, workforce integration, more efficient business processes, greater credibility, and a more collegial working relationship with the Congress.

Many additional examples exist that indicate the growth and initial success of public-private partnerships. In 1999, DoD documented 54 depot maintenance public-private partnerships; at the end of 2001, there were 73. At the end of 2002, there were 99; for 2003, 144 partnerships were put in place.¹⁵⁶ The Navy's F/A-18E/F Integrated Readiness Support Teaming Agreement, for example, demonstrated integrated maintenance between Naval Aviation Depot (NADEP) Jacksonville and the Boeing Company for maintenance product support for unique requirements of this aircraft. NADEP Jacksonville was assigned depot-level maintenance responsibility for specific components, and the Boeing Company, the original equipment manufacturer of the aircraft, provided engineering, logistics, and system design and development support. This arrangement resulted in significant product support benefits for the aircraft.

As the MTSSG IPT moves into discussions about processes for improved depot maintenance provision decision making, these kinds of arrangements suggest promise for future arrangements. Currently, partnering is the only known organizational arrangement to satisfy requirements for lifetime commercial product support and legal core requirements.

¹⁵⁶ Office of the Secretary of Defense, *Public-Private Partnerships for Depot-Level Maintenance*. Prepared for the Deputy Under Secretary of Defense (Logistics and Materiel Readiness) by Joint Depot Maintenance Activities Group (Washington, D.C.: OSD, 2004).

Chapter 5: Summary of the Study, Conclusions, and Recommendations for Further Study

Summary of the Study

As I have discussed in Chapter One, I have a keen interest in areas of defense management and, prior to this study, had analyzed and written about the formal decision logic that the Military Services were applying to depot maintenance provision choices. I realized there were problems with these approaches and made various formal recommendations to try and improve them in my work in this area.

In this study, I have expanded on that more narrow scope and have combined results of a qualitative research approach with a theoretical perspective (the Advocacy Coalition Framework) to address problems that I discovered during my exploratory research. The ACF provided appropriate ways to think about the processes my analysis suggests are producing the problems with decision-making within the depot maintenance provision policy subsystem. My main contribution is that I have employed the ACF as a way to think about reforming a very complex area of defense management; it has not been previously applied to the depot maintenance management arena. I have also attempted to strengthen my application of the ACF with linkages to policy implementation concepts of political rationality and institutional leadership that I have confirmed through elite interview validation. Additionally, I believe that the details that underlie the descriptions about the current decision-making framework, as well as my suggestions for improving it, are an important contribution to this area.

I believe there is a plausible degree of both reliability and validity with the outcomes of my research because I have (1) followed a disciplined approach to qualitative research and

(2) have had the most critical aspects of my analysis and recommendations checked with experts in the depot maintenance field as part of my research agenda.

I have learned that there is probably good reason why such research approaches are not normal in this area, especially for one who works in the area. Because of the tremendous amount of scrutiny and contention that has surrounded decisions about depot maintenance provision, there is a great amount of sensitivity with the comments that people provide about the topic. There was also a degree of concern in my study with access to the documents that I was able to review that helped me build the history that is outlined in Chapter Three of the study. Therefore, I attempted to get a large enough group (sixteen interviewees) to check my sense of the history, problems, and suggested improvements to the topic to maintain a degree of validity. I also carefully researched the background of each elite interviewee to ensure that I reached the leading thinkers on the topic who represented diverse opinions on the subject.

I do realize that the sensitivity that surrounds this topic has prevented me from reaching into or relating some of the true interior dynamics that have shaped the current decision-making setting. In other words, it was not appropriate to “name names” for various reasons. This may be a limitation of my research. However, I am confident that I was able to gather enough of the important dynamics and perspectives to offer a descriptive account that is valid and worthy of consideration by those interested in improving decision making in this area.

This research, in the final analysis, is really a qualitative analysis in its truest sense. It fundamentally depended upon watching people in their own territory and interacting with them in their own language, on their own terms in order to suggest a new strategic direction. It was a fascinating exploratory journey.

Conclusions

Underlying the formal legal and policy arrangements for important areas of governmental decision making are a history and a set of perspectives. In the case of decisions about depot maintenance provisions, the current set of perspectives supports a framework that is problematic in important respects, but could be improved by broader, yet differently focused stakeholder participation. After a descriptive treatment of the topic, this study has offered an exploratory advocacy coalition based improvement perspective on it.

In sum, the current decision-making framework for depot maintenance provision is problematic in many respects. The most troublesome aspect of the current decision-making framework is that the desire to control the overall outcomes of depot maintenance provision decisions is based largely upon political and ideological concerns that support a conflictive overall orientation. This orientation permeates the organizations involved and has caused a particular alignment of stakeholders and tenor of dialogue about the issues that surround it. This dialogue can be characterized as parochial and combative and, given the changes that depot maintenance as an institution must address, is unhelpful.

It is hoped that a consideration of the tentative advocacy coalitions proposed in this study by DoD institutional leaders might be useful to improve the situation. In reality, as has been shown, there is actually a plethora of inconsistent and uncoordinated decision-making processes for depot maintenance provision which has resulted in a precarious alignment of interests and perspectives on the decision.

The Strategic Improvement Agenda (SIA) that I suggest to improve the current setting is designed to address specific problems and stress a focus upon less normative and more constructively debatable issues, such as the depot maintenance contribution to combat readiness. The SIA is based upon general hypotheses offered in Sabatier and Jenkins-Smith's Advocacy

Coalition Framework (ACF) concerning policy change, and learning across coalitions. The SIA also draws upon the strategic management literature; specifically in the areas of agenda setting and institutional leadership.

The focused organizational arrangement that is proposed within the SIA is an Integrated Process Team (IPT). This IPT, with sustained OSD leadership, could implement the SIA and clarify the objectives, perspectives, and processes that support more effective and less contentious depot maintenance decision making for the DoD. Over a relatively short period of time, a defensible enterprise-level approach to depot maintenance management could emerge. Without active management attention at the levels suggested, the attributes of tomorrow's DoD maintenance infrastructure will likely evolve based upon the entrenched rationales that currently exist.

It is important to note that DoD has consistently used an IPT format to involve stakeholders from diverse groups in management decision making. While there have been successes, IPTs for senior managers can break down or become ineffective if they are not competently led. In fact, some historical IPT approaches (such as the Defense Depot Management Council discussed in Chapter Three) have failed from an inability to drive common solutions or enforce compliance, and from senior management skills more attuned to political considerations than technical issues surrounding depot maintenance. Thus, the format is sound, but the task is not simple.

Should DoD move in this new direction, its chances of improving specific depot maintenance provision decisions should increase. This is because the coalitions involved in it can focus upon issues related to the most appropriate maintenance approach for a given requirement, which should move discussions toward more constructive, less normatively charged "secondary

issues” by the stakeholders who are most familiar with the technical aspects of these decisions. This kind of rationale, if it can emerge, will be more difficult for politically or ideologically based arguments to contend with. In fact, it could be the basis for a replacement of much of the current legal and policy framework that exists on the issue.

The SIA does not assume that conflict and different perspectives will somehow vanish or merge altogether. It stresses a focus upon issues that will generate potentially more reasoned debate and follow-on policy learning in areas of mutual interest. I will consider it successful if it helps offer a way in which responsible mission-driven maintenance support decisions can occur and be balanced with the intense public and private scrutiny of this huge and vital national resource.

I have learned, and this study has reinforced, that improving these complex situations is complicated and emotional, but must be addressed based upon the interests involved and through a process such as the SIA. It is not an “either/or” world for our combat soldiers who are sustaining steeply increased levels of operation in the war against terrorism; in which they face issues and generate responses that are complex, new, and emerging. The ways we think about supporting them need to contain the same dynamic. In this area of national security, getting past that “either/or” mindset, the public-versus-private dilemma, has not occurred at the level of institutional leadership. The comfort the current situation may offer to some may amount to nothing less than potential or actual loss of life on the battlefield.

I will close by relating a comment made by a very senior military person who had overall responsibility for coordinating logistics activities for major combat efforts. He said, “Nick, if I were a younger man, the kinds of issues we are talking about here would keep me up at night.” As this study reached its conclusion, I found myself less and less able to sleep.

Recommendations for Further Study

Based upon this study, several recommendations for further study are proposed:

First, a policy subsystem and stakeholder analysis theoretical perspective has not been previously applied to this topic. It is quite possible that other researchers using the ACF or similar constructs could use the analysis of stakeholder perspectives that is presented at the end of Chapter Three as the baseline for further analysis. My intent, from a practical perspective, was to use my findings to attempt to build a workable improvement framework from what I learned about this complex area. There are, I am sure, more analyses that could be pursued based upon my exploratory work. For instance, one could better research and clarify the types of accepted quantitative data that exists in this area in order to support more conducive policy-oriented learning across various belief systems or substantive issues attributed to the depot maintenance choice.

There is also an opportunity to empirically verify the relevancy and ultimate utility of the advocacy coalition forums that are offered as part of Sabatier and Jenkins-Smith's ACF in the context of depot maintenance provision. Should the SIA and IPT improvement process suggested in this study be used, there is opportunity to assess its success in relation to expectations set by the ACF theoretical framework as well as the complementary theoretical perspectives offered in the study, such as Thompson's Levels Model.

Second, there appears to be a need to analyze and improve overall cost visibility for depot maintenance provision. Costs will certainly be a consideration in depot maintenance provision decisions that occur within the proposed strategic framework. Of particular concern is the fact that contractor depot maintenance costs are frequently "buried" in large support contracts; therefore, it is increasingly difficult to attain any visibility of those costs in a specific manner. A study with the operating commands to look at overall maintenance support costs, their

relationship to timeliness of service, and engineering-related issues such as the equipment's mean time between failure rates would be of help.

Third, a need exists to incorporate and update the small amount of recent work that attempts to look at the actual decision characteristics for depot maintenance provision choices in the DoD setting. The only true study of this type that I could identify was accomplished by James Forbes.¹⁵⁷ This study suggested that any approach to the issue needs to be performance-based and related to an overall value assessment, based upon military necessity. The Congressional Budget Office study mentioned in Chapter One of this dissertation and some of the approaches in the public administration literature reviewed suggest good starting points, as well. Studies of this type could support discussions and analysis of specific depot maintenance provision choices in the context of the strategic framework recommended.

Finally, this research suggests that there is a current concern for equipment safety and quality, particularly with older systems. What is an effective way to characterize this problem, and what is its specific relationship with depot maintenance practices? Most important, what will happen if the current patterns continue?

¹⁵⁷ James A. Forbes, "Deciding Between Public and Private Providers of High Technology Commercial-Like Activities: The Case of Weapon System Depot Maintenance" (unpublished Ph.D. diss., The George Washington University, 2001). Also see p. 80 citation re 1997 study.