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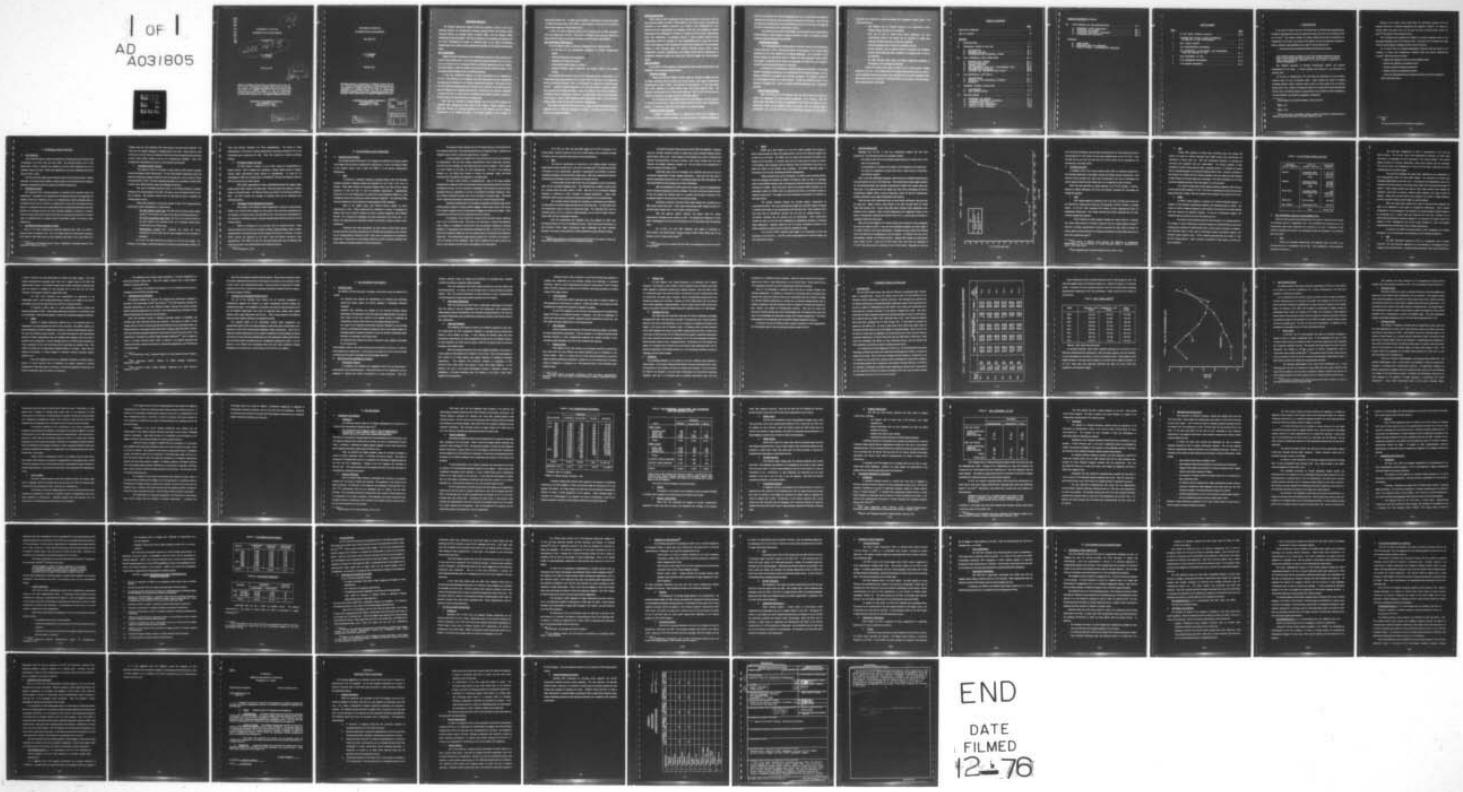

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LMI TASK 76-7

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E. A. Narragon
J. M. Neil

October 1976

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4701 Sangamore Road
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INDUSTRIAL FUNDS FOR TRANSPORTATION MANAGEMENT

LMI TASK 76-7

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EXECUTIVE SUMMARY

The Logistics Management Institute (LMI) has completed a review of the use of industrial funds by the transportation operating agencies (TOAs)—the Military Airlift Command (MAC), the Military Sealift Command (MSC), and the Military Traffic Management Command (MTMC). The review focused on (1) contrasting the operations of the TOAs, (2) assessing the impact of industrial funds on the TOAs, (3) evaluating modifications to the Airlift Service Industrial Fund (ASIF), and (4) related transportation issues.

TOA OPERATIONS

Budget and tariff development varies considerably among the TOAs, primarily as a result of mission differences. In MAC, the flying hour programs (FHPs) of the C-5, C-141, and C-130 aircraft are the principal factors in estimating operating costs and, thereby, the airlift tariffs. In MSC and MTMC, the sealift and terminal tariffs are based on the forecasted workload requirements of the Military Services.

A TOA rate stabilization program was fully implemented at the beginning of FY 1977. The objective was to eliminate wide tariff fluctuations thereby strengthening the planning and execution of the Service transportation programs. The tariffs of each TOA are established approximately 9-12 months prior to the start of the fiscal year and, once established, are not adjusted until year end. Furthermore, the tariffs are established to permit each TOA to trend toward a no-profit/no-loss financial condition, contrary to the prior policy of no-profit/no-loss on an annual basis.

Each TOA has identified an unused capacity cost in its FY 1977 program and requested direct appropriation funds equal to that amount. Unused capacity is the difference between the readiness required by the TOA mission and the workload requirements of the Military Services. The unused capacity in MAC consists of

unsubscribed flying hours. The MSC unused capacity is comprised of several ships placed in reduced operating status, while MTMC's unused capacity is made up of idle facilities, underutilized capacities, and unoccupied space.

In MAC, the ASIF is primarily viewed as an accounting tool to relate operations, cost, and revenue after the fact. This practice contrasts vividly with that observed in MSC and MTMC where the industrial funds play prominent roles in daily decisions.

TOA INDUSTRIAL FUND IMPACT

The TOA industrial funds are effective management tools. Industrial funds:

- set the tone for cost consciousness throughout the Defense Transportation System
- create incentives for sound management
- establish a cost awareness by users
- accommodate sudden changes in workload
- facilitate planning, budget formulation, and program review by the shipper services

The industrial fund concept, however, is not a panacea for DoD transportation. It is frequently assumed that placement of an activity under an industrial fund automatically insures an effective operation. This is not necessarily so. Furthermore, industrial funds contribute to greater emphasis being placed upon cost data relative to military mission. Such emphasis is not always beneficial. Finally, the industrial fund tariffs contribute to an inefficient use of transportation resources. The differential between airlift and sealift tariff results in organic airlift capability being underutilized, while at the same time military cargo is being moved by the commercial shipping sector.

These negative observations, however, do not negate the general conclusion that the industrial fund is an effective management technique. We recommend that the TOAs continue to be industrial funded.

ASIF MODIFICATIONS

While numerous ASIF modifications have been proposed in recent years, only four have received extensive attention. These include (1) use of token tariffs to encourage full utilization of the readiness by-product (one version of this modification—the TP-4 program—has been implemented); (2) stabilizing tariffs (the rate stabilization program encompassed this modification); (3) flooring or fencing of Service airlift transportation funds (this modification is inadvisable because it would severely restrict Service transportation officers in carrying out their responsibilities and it would tend to relax some of the pressures on MAC management); and (4) direct funding MAC (also inadvisable because it would adversely impact the existing movement priority system, distort transportation economic considerations, and possibly restrict MAC's responsiveness to contingency situations because the aerial ports would be clogged with non-air-eligible cargo).

RELATED ISSUES

In the review of TOA industrial fund operations, several closely related issues were identified. These issues are addressed below.

Deferred Air Freight

Under the deferred air freight program, cargo not normally air-eligible is moved at surface equivalent rates in a deferred air service manner. This cargo is considered as Transportation Priority 4 (TP-4). The objective of the program is to more fully utilize MAC airlift capability by moving surface cargo when unused capacity exists. The program's effectiveness can be substantially improved. MAC and the Services have not made the commitments necessary to ensure a successful program.

We recommend that the ASD(I&L) call for the restructuring of the TP-4 program to improve its productivity, reduce MAC unused capacity, and save DoD transportation dollars. A conservative estimate of such savings is $5-7 million annually.

Validated Frequency Channels

A validated frequency channel is a channel over which MAC is obligated to provide a specified minimum frequency of service regardless of workload requirements.

Many of these channels are currently sustaining a loss, i.e., the cost of MAC providing the requested service is greater than the revenues received from the Services. Four years ago the General Accounting Office (GAO) identified this situation as a problem and suggested that MAC charge the full cost of providing the service.

We concur with the general GAO position, but recommend that its application be limited initially to those validated frequency channels in which the specified minimum frequency regularly dictates the actual flight.

Administrative Aircraft

The T-39 administrative aircraft program of the Air Force has been administered by MAC since July 1, 1975. The primary mission of the program is to maintain flying proficiency of Air Force personnel in non-flying assignments. As a by-product of this primary mission, the aircraft are used to transport Air Force personnel within CONUS. The program is presently direct funded, all passengers are moved free, and service is curtailed when the flying hour program is exhausted.

We found the T-39 administrative aircraft program to be effective. Even though financial performance measures are not being used by the program manager, the non-financial indicators in use appear to be effective surrogates. We therefore recommend that this program continue to be direct funded. To keep the ASD(M&L) abreast of the program, we suggest that a report of readily available performance data be submitted quarterly.

Tactical Fleet Operations

Prior to FY 1977, the C-130 tactical fleet was direct funded and under the control and management of several theater commanders. As of October 1, 1976, the tactical fleet came under the AWF and management of the aircraft was shifted to MAC. (Operational control of the deployed aircraft still resides with the overseas theater commanders.) Near the end of FY 1976, the tactical fleet operations in the European

Command were reviewed to assess the funding and management change impact. The review showed that:

- user discipline will be increased because of the requirement to plan, program, budget, and pay for all movements
- MAC will be able to better match airlift capabilities with user requirements; however, this ability will be restricted by flying hour programs, airfield limitations, and aircraft availability
- additional personnel will be required to administer the fund
- aircraft utilization will be reduced because of increased user discipline, thereby freeing additional airlift capability to be applied where it can be most effective
- the ASIF will have little effect on theater components responding to contingency or near-contingency situations

Placing the tactical fleet under the ASIF will not in itself produce tangible benefits for the DoD. Cost savings will not be realized unless specific steps are taken to attract additional business and thereby take advantage of the increased capability which has resulted from the consolidation. If OSD and MAC do not respond to this opportunity, MAC unused capacity will increase.

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I. INTRODUCTION

In its review of Fiscal Year (FY) 1976 Department of Defense (DoD) appropriations, the Senate Appropriations Committee expressed concern about the use of industrial funds by the DoD.[1] This concern focused on civilian ceiling controls and the operation and management of the funds. As a result of this concern, the DoD was directed to perform a study of industrial fund operations and to report to the Committee on:[2]

> . . . which activities are industrially funded and which direct funded;
>
> . . . . . .
>
> what evidence is there to support the view that industrial funded activities are more or less efficient than direct funded ones; to what extent are industrial funds merely accounting "gimmicks" and to what extent do they aid in effective management; . . .

The Assistant Secretary of Defense (Comptroller), ASD(C), was assigned responsibility for the study. A formal response was submitted to the Committee on April 26, 1976.

In the area of transportation, the Committee had additional, but more specific, concerns about the use of industrial funds. These included the effect of steadily increasing Military Airlift Command (MAC) tariffs on mode selection by the Military Departments;[3] and whether the industrial funds of the transportation operating agencies (TOAs)—MAC, the Military Sealift Command (MSC), and the Military Traffic Management Command (MTMC)—are effective management techniques.[4]

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[1] Senate Report No. 94-446, November 6, 1975, pp. 36-39.

[2] Ibid., p. 39.

[3] Ibid., p. 150.

[4] Letter from John L. McClellan, Chairman, Senate Committee on Appropriations, to Donald H. Rumsfeld, Secretary of Defense, January 30, 1976.

Because of its concern about tariff rates, the Committee requested from the Assistant Secretary of Defense (Installations and Logistics), ASD(I&L), "an analysis of military traffic and tariff rates over the past ten years, showing tonnage, modes, and rates."[5] This request is still being acted upon.

The Committee also requested the ASD(I&L) to provide a separate report on the operating techniques of the TOA industrial funds. The report was to address such topics as rates, unused capacity, billings, and other common functions.

On 10 March 1976, the Logistics Management Institute (LMI) was tasked by the ASD(I&L) to review DoD transportation industrial funds and related transportation matters.[6] LMI's review was to include:

- contrast the respective roles of the TOA industrial funds
- examine the feasibility of stabilized tariffs
- evaluate alternative funding arrangements
- assess the effect of unsubscribed capacity
- review the relationship between transportation policy and fund management

This is LMI's final report.

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[5] Ibid.

[6] A copy of Task Order 76-7 is attached as Appendix A.

II. INDUSTRIAL FUNDS IN THE DOD

A. BACKGROUND

Use of industrial funds to finance the operation of industrial-type activities has been commonplace in the DoD since the early 1950s. The National Security Act of 1947 (Section 405, Title IV), amended and codified as 10 U.S.C. 2208, authorized the use of industrial funds in the DoD. Initial DoD regulations on the use of industrial funds were issued on July 13, 1950.

The first activities placed under industrial funds were DoD printing plants. Shortly thereafter, the concept was extended to various types of DoD activities such as arsenals, shipyards, transportation activities, depots, and research laboratories.

B. CRITERIA FOR USE

DoD Directive 7410.4 provides guidance on industrial fund operation within the Department.[7] Embedded in the regulation are the general criteria for the application of industrial funds—the installation must be an industrial-type activity producing goods or providing services that are common to requirements of more than one Military Service, agency, or ordering activity; and a buyer-seller and/or contractual relationship must exist between the providing activity and those activities requiring its products or services. There are many other factors that are also taken into account when an activity is placed under an industrial fund, for example, scope of operations, number of customers, other missions, etc.

C. TRANSPORTATION INDUSTRIAL FUNDS

Each of the three transportation operating agencies—MAC, MSC, and MTMC—operates under an industrial fund. MAC was placed under the Airlift Service Industrial Fund (ASIF) in 1958, MSC under the Navy Industrial Fund (NIF) in 1951, while MTMC was

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[7] Department of Defense Directive 7410.4, "Regulations Governing Industrial Fund Operations," September 25, 1972.

brought under the Army Industrial Fund (AIF) during a two-year period (1955-56). The TOAs are the principal managers of transportation in the DoD. While there are other activities in the DoD which are industrial funded and provide transportation services (such as Navy Public Works Centers), they are not transportation managers. Also, their transportation responsibility is limited to local deliveries and services.

1. The Military Airlift Command

The mission of MAC is to sustain a ready military airlift system to satisfy wartime/contingency airlift requirements. To meet this readiness requirement, MAC has peacetime flying hour programs (FHPs) for both its strategic (i.e., the C-141 and C-5) and tactical aircraft (C-130). The airlift capability generated as a by-product of these FHPs is used to move Military Service cargo and passengers world-wide.

The cost of providing peacetime airlift to the Military Services is initially financed by the working capital of the ASIF. The users, in turn, are billed by MAC for the cost of service. The revenues received from the Services are used to replenish the working capital account.

While airlift readiness is the primary mission of MAC, the Command also has several other mission responsibilities. These include:

- The 89th Military Airlift Wing: The 89th MAW provides special mission support for the President and other United States and foreign dignitaries.
- The 375th Aeromedical Airlift Wing: The 375th AAW provides airlift for sick and wounded DoD personnel within the Continental United States (CONUS) and near off-shore areas.
- Administrative Aircraft: MAC schedules and routes Air Force administrative aircraft when they are made available for the movement of passengers.

In FY 1977, the ASIF constitutes the majority of the total MAC budget. The remainder of the budget is primarily supported by Operation and Maintenance (O&M), Air

Force and Military Personnel, Air Force appropriations. The status of these appropriations is monitored by normal appropriation accounting procedures—not by the accounting system supporting the ASIF. Thus, MAC employs two distinct accounting systems.

2. The Military Sealift Command

The MSC mission is similar to that of MAC except its responsibilities are sealift oriented. MSC is charged with operating a military sealift system to support military cargo requirements during wartime or contingencies. To carry out its responsibilities, MSC has 115 ships under its jurisdiction.[8] Seventy-two ships are owned by MSC and forty-three are under charter.

MSC sealift responsibilities include operating/chartering fleet support ships, special project ships, tankers, and cargo ships. They also include the booking of military cargo on commercial ships. The Military Services are billed for all services provided by MSC. All MSC revenues flow through its industrial fund and the associated cost accounting system.

3. The Military Traffic Management Command

The mission of the Military Traffic Management Command is multi-faceted. MTMC is the CONUS traffic manager for DoD cargo; it has world-wide responsibility for the operation of military ocean terminals (MOTs); and, it has world-wide responsibility for the movement of personnel property including household goods (HHG) and privately owned vehicles (POVs).

MTMC is reimbursed by its customers only for terminal services. These services include such activities as container stuffing, loading/unloading cargo at MOTs, lining/delining of ammunition ships, and the crating of POVs prior to movement. All other MTMC services are supported by the O&M, Army and Military Personnel, Army appropriations. The MTMC has only one cost accounting system and all industrial fund revenues and O&M, Army appropriations flow through this system.

[8] As of December 31, 1975.

III. TOA INDUSTRIAL FUND OPERATIONS

A. BUDGETS AND TARIFFS

The principal factors affecting the TOA budgets and tariffs are the military mission of the Agency and the Service transportation requirements. In MAC, the military mission is the dominant factor, while in MSC and MTMC it is the Service transportation requirements.

1. MAC

To maintain an adequate emergency readiness posture, MAC has developed minimum peacetime utilization flying hour programs for the C-130, C-141, and C-5 aircraft. These FHPs identify the minimum program hours that must be flown during peacetime in order for MAC to meet its readiness requirements. Approximately 25 percent of the total flying hours are required for local proficiency flights (i.e., local training) and thus do not produce any airlift by-product capability. The remaining flying hours are available for route training and thereby generate airlift capability

Early in the budget cycle, each Military Service submits its airlift requirements to MAC. These requirements are expressed in number of passengers by channel, short tons of cargo by channel, and hours of Special Assignment Airlift Mission (SAAM). MAC translates the passenger and cargo requirements into flying hours. In a SAAM, the requiring Service essentially charters the aircraft to satisfy a specific airlift requirement.

Concurrent with these submissions, the Joint Chiefs of Staff (JCS), Military Services, and MAC determine requirements for JCS-directed exercises and Joint Airborne and Air Transportability Training (JA/ATT). Both types of requirements are expressed in flying hours. These hours do not generally produce any airlift by-product capability that can be applied to satisfying channel or SAAM requirements.

The channel, SAAM, exercise and JA/ATT requirements are then matched with the available flying hours. This matching identifies any overage/shortage in capability and highlights areas in which commercial augmentation is required.

In putting together its budget, MAC first estimates the total cost of satisfying all requirements. The Air Force mission responsibilities, which include joint exercises, JA/ATTs and local training, are then subtracted from the total program. These missions are direct funded by the O&M, Air Force appropriation. The cost of the remaining program (i.e., the flying hours required to satisfy the passenger, cargo, and SAAM workload) forms the basis for development of the ASIF tariffs.

The MAC tariff structure is straightforward. Each of the three workload categories has a separate tariff for generating revenue approximately equal to the cost of providing the service. For the movement of passengers, MAC charges all users the same passenger-mile rate, regardless of the cost of providing the particular capability. MAC has a similar worldwide ton-mile rate for the movement of channel cargo. The SAAM tariff is separately identified for each aircraft type on a cost-per-flying-hour basis.

Additional considerations in developing the passenger and channel cargo tariffs include penalty charges for excess personal baggage, excess cargo volume, and income from incentive programs such as unaccompanied baggage and deferred air freight. These considerations are further aimed at balancing costs and revenues.

An exception to the objective of having tariffs accurately reflect operating costs is the C-130 SAAM tariff. This tariff is not structured to recover full operating costs. Rather, it is designed to provide MAC with the maximum flexibility in matching capability to requirements and concurrently satisfying the FHPs. In FY 1977, the C-130 SAAM rate is $600 per flying hour, but the computed cost of the aircraft is over $800 per flying hour. This pricing policy approximately equates the C-130 and C-141 aircraft in terms of cost-per-ton-mile capability. Thus, MAC is relieved of the need to justify the use of a more expensive aircraft when a less expensive one would suffice.

As of May 18, 1976, the total ASIF budget for FY 1977 is expected to be $1,004 million. Almost 70 percent of this total, or $699 million, will be recovered through the tariff, with the remainder being funded by direct appropriation.

2. MSC

The Service requirements are submitted to the Military Sealift Command approximately fifteen months prior to the start of the fiscal year.[9] Each Service provides a forecast of its lift requirements, expressed in measurement tons (MTON), by general commodity grouping, and between MSC traffic areas. MSC then consolidates all Service requirements and develops a plan for providing the necessary service.

In constructing the plan, MSC draws upon the capability of both its controlled fleet and the commercial shipping sector. The controlled fleet consists of ships owned (i.e., nucleus ships) and under charter to MSC. MSC use of the commercial shipping capability is governed by either container or shipping agreements. Under these agreements, MSC procures containers and break-bulk capability on an as-needed basis.

Two principal factors affecting the matching of requirements and capability are DoD policy on container ships and sizing of the controlled fleet. It is DoD policy that all containerized cargo be moved by commercial ships. The controlled fleet must be carefully sized so as not to retain an excess capability nor too little—if either situation occurs, MSC will incur unnecessary expenses.

Once the requirements and capability have been aligned, the MSC Area Commands estimate the cost of providing the service. These costs include petroleum, oil and lubrication (POL), wages, maintenance, repair, husbanding, and other operating expenses. The costs are then submitted to MSC Headquarters where overhead is added.

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[9]Exact time periods are in a fluid state for all TOAs due to the change in fiscal year dates and the implementation of the rate stabilization program.

Commercial container ships provide the bulk of MSC lift capability. Container rates (i.e., the MSC container tariffs) are based upon carrier proposed charges between specific MSC traffic areas. These charges are then adjusted as a result of historical and expected inbound/outbound movement patterns, other carrier charges over the same channels, fuel charges, assessorial charges, etc. The end result is the establishment of several composite commodity rates.

Break-bulk cargo rates are developed from historical data plus the cost of commercial augmentation through shipping agreements. These data are then used to develop relationships between the cost to lift general cargo and other commodities. The remaining tariffs are then developed from these relationships.

MSC has established 82 traffic areas which combine certain ports/geographical areas to facilitate planning and customer billings. Thus, MSC tariffs are similar to MAC's in that the amount the customer pays for a specific point-to-point movement is not necessarily related to the actual cost of the service provided.

Sometimes a customer will have limited cargo destined for a specific port so MSC cannot recover full costs. Under these circumstances, MSC charges the user on a per-diem basis to assure that it will not suffer a substantial loss.

MSC also operates support, research, and project ships for various organizations, including several outside the DoD. The planning and budgeting for these ships is distinguished from the above procedures in that the ship sponsor pays all operating costs.

For FY 1977, the total MSC industrial fund budget is estimated at $762.5 million, with $558.4 million recouped through tariffs, $198.0 million paid for by sponsors, and $6.1 million direct funded.[10]

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[10]It is expected but not assured that the O&M, Navy appropriation will be the source of these funds.

3. MTMC

MTMC has a dual mission—it is the DoD traffic manager (this function is direct funded through the O&M, Army appropriation), and the DoD terminal manager (this is paid for by the users). The MTMC has two major field activities—the Eastern and Western Area Commands. All Atlantic Coast and Gulf Coast ports are under the control of the Eastern Area Command, and all California Coast and Northwest Coast ports are under the control of the Western Area Command. The MTMC operating budget is developed at the two Area Commands and MTMC Headquarters.

MTMC operates three types of terminals: (1) military ocean terminals (MOTs), which are managed and operated by MTMC, (2) outports, which are Navy or municipal ports at which MTMC operates a pier, (3) Navy ports, which are operated by the Navy and reimbursed by MTMC. Some Navy ports, such as the Norfolk Ocean Terminal, are not industrially funded, but MTMC costs are collected and billed in an identical manner to industrial funded ports. The budget and tariff development procedures are identical for each type of port.

The Service forecasts indicate the terminal support requirements by commodity and coast. The Area Commands then assign the forecasted coastal workloads to specific ports based on port specialization and historical data. Where possible, direct port costs such as stevedoring, material, and the like, are charged directly to a commodity, otherwise they are prorated over all commodities. Tariff requirements initially are built by port and then consolidated by geographical grouping to facilitate cargo assignments. Separate tariffs are set for various commodities because of the distinct physical activities and costs involved in handling the cargo.

The FY 1977 MTMC industrial fund budget, as of September 22, 1975 was estimated to be $144 million, with $101 million being supported by terminal charges and $43 million direct funded.

B. RATE STABILIZATION

Beginning with FY 1977, a TOA rate stabilization program has been fully implemented. The principal features of the program include:

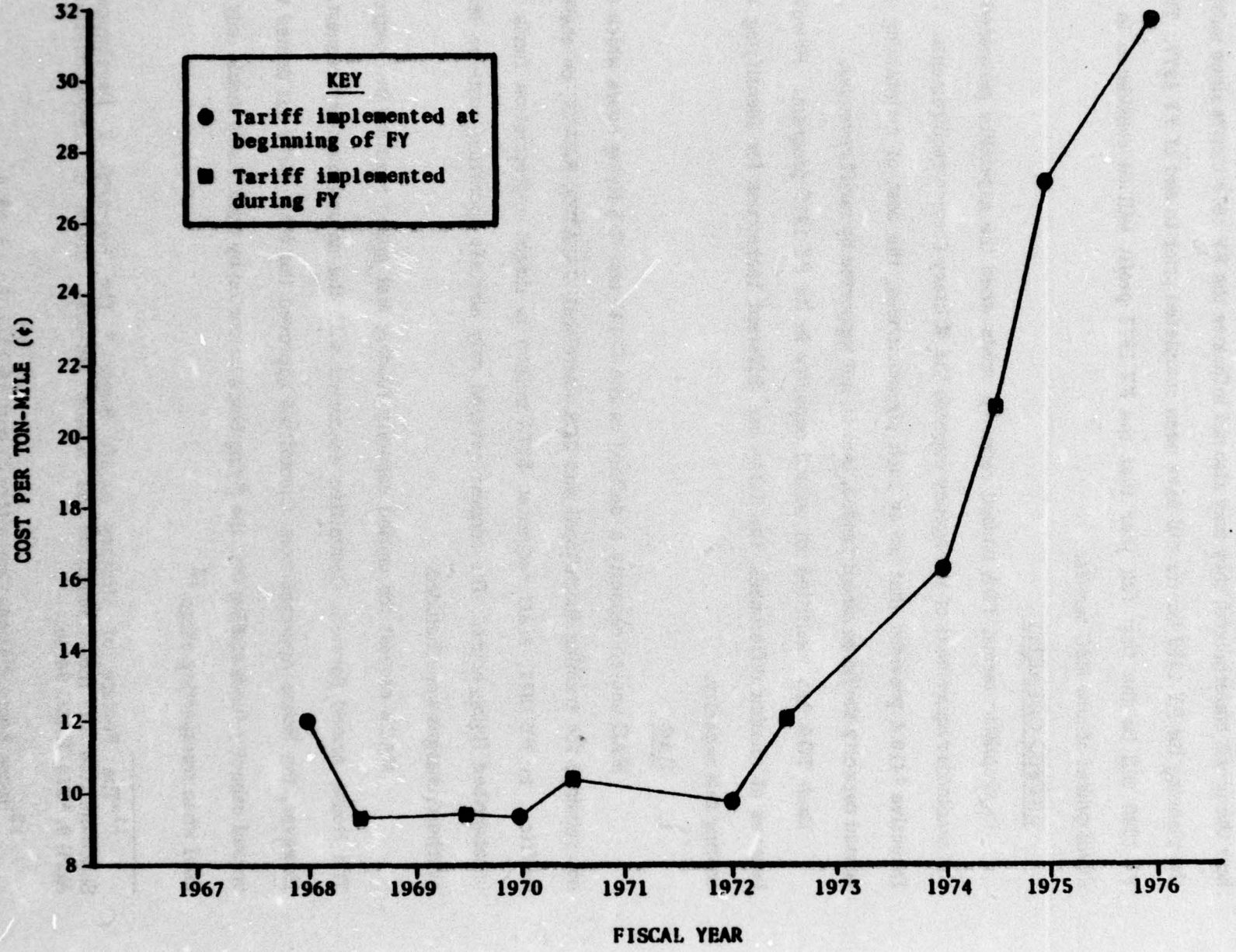
- the tariffs of each TOA are established approximately 9-12 months prior to the start of the fiscal year
- once established, the tariffs are not adjusted until completion of the fiscal year
- the tariffs are established to permit each TOA to trend toward a no-profit/no-loss financial condition

Prior to the rate stabilization program, tariffs were set by OASD(C) approximately one month before the start of the fiscal year. This traditionally created budget problems for the Services because their approved transportation budgets were usually based upon other rates. If the approved rates were higher than those used in developing the Service transportation budgets (which occurred frequently), either the Service transportation programs suffered or other budget adjustments were required.

While mid-year tariff adjustments have not been annual occurrences, they have also not been rare. Figure 1 shows a brief history of the MAC ton-mile tariff for Fiscal Years 1968 through 1975. During these eight years, mid-year tariff adjustments were effected on five occasions. Many of these adjustments had a significant impact on the Service transportation programs--the Services either had to curtail cargo movements or reprogram funds from other areas.

Many of the wide swings in TOA tariffs resulted from attempts to fully compensate for prior year losses or profits. Under the rate stabilization program, the same weight is not being attached to prior year performance. Emphasis has been shifted from breaking even in the short-term to balancing out over the long-run. To illustrate how this will be accomplished, consider the following example. Suppose MSC realizes an unanticipated profit during FY 1977. Since the FY 1978 tariffs were fixed near the beginning of FY 1977, this profit cannot be reflected in the FY 1978 tariffs. Depending on when and

FIGURE 1. MAC CARGO TARIFFS



how the profit materialized, they may also not influence the FY 1979 tariffs since most of the planning for FY 1979 tariffs will have been completed prior to end of FY 1977. Thus, FY 1980 will be the first full year that the FY 1977 profit will be considered in the development of new MSC tariffs.

C. UNUSED CAPACITY

In simplistic terms, TOA unused capacity exists when the capability generated by the readiness requirement of the agency exceeds the Military Service requirements. DoD Directive 7410.4 provides that under such circumstances, the cost of maintaining this unused capacity should be direct funded, that is, not supported by tariff revenues.

Each TOA has identified an unused capacity in its FY 1977 program. However, because of mission differences, the TOAs use different techniques for identifying and costing this capacity.

1. MAC

MAC unused capacity is defined as the C-141 and C-5 flying hours which are not required for training (both local and JCS exercises), JA/ATTs, SAAMs, or channel traffic. In FY 1977, MAC requested $27.7 million in direct appropriation funds for unsubscribed flying hours. The request covered only aircraft operating cost—no MAC overhead charges were included.

MAC's request for unused capacity funding met mixed reaction in Congress. The House Armed Services Committee concurred with the unused capacity request.[11] However, the House Appropriations Committee approved the MAC FHPs but denied the unused capacity funds stating that the flying hours supported by these funds should only be used when transporting cargo.[12]

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[11] "The Posture of Military Airlift Report," The Research & Development Subcommittee of the Committee on Armed Services, House of Representatives, April 9, 1976, HASC 94-40.

[12] House Appropriations Committee Report 94-1231, June 8, 1976.

2. MSC

Unused MSC capacity is created when controlled ships, both nucleus and charter, are placed in reduced operating status (ROS) because user requirements are insufficient to justify their use. MSC has considerable flexibility in matching the controlled fleet capability with user requirements. The options available to MSC management include letting charters lapse, cancelling charters, or reducing the nucleus fleet by transferring ships to the National Defense Reserve Fleet. However, embedded in each option is the danger that the released capability may never again be made available to MSC because the involved ships may be salvaged. With MSC dominating the U.S. Flag break-bulk shipping capability, these fears appear to be well founded.

As a means of preserving a rapid response readiness capability, MSC will have several ships in ROS throughout FY 1977. The cost of maintaining the ships in ROS will be approximately $6.1 million. MSC has requested direct funding in this amount for FY 1977.

3. MTMC

In MTMC, unused capacity is referred to as reserve industrial capacity. It consists of idle facilities, underutilized capacity, and unoccupied space at MOTs. The amount of reserve industrial capacity at each facility is determined by formulas relating total pier capacity and expected workload. In this way, maintenance, support, and overhead costs are prorated over used and unused capacity.

The nature of pier operations permits unused capacity to be readily identified. For example, if a given facility has a rated pier capacity of 20,000 MTONs per month and a programmed workload of 10,000 MTONs, then it will be used at 50 percent of capacity. This utilization figure is then used in estimating terminal maintenance, support, and overhead unused capacity costs. MTMC requested approximately $6.4 million to fund FY 1977 unused capacity. Table 1 provides a breakdown of this request by facility and type of capacity.

TABLE 1. FY 1977 MTMC UNUSED CAPACITY

MILITARY OCEAN TERMINAL	TYPE OF UNUSED CAPACITY	BUDGETED AMOUNT
Bayonne	Unoccupied Space	$ 743,178
	Underutilized Cap.	1,183,172
	Total	1,926,350
Oakland	Unoccupied Space	185,000
	Underutilized Cap.	502,000
	Total	687,000
Sunny Point	Unoccupied Space	836
	Underutilized Cap.	3,332,388
	Total	3,333,224
King's Bay	Idle Facilities	278,288
Gulf Outport	Underutilized Cap.	226,937
	Total	$6,451,799

D. THE INDUSTRIAL FUND AS A MANAGEMENT TOOL

There are many similarities and differences in the manner in which the TOAs employ the industrial fund as a management tool. The similarities are primarily due to the requirements placed upon industrial fund activities by the DoD. Variations in TOA missions, operating environments, and management practices contribute to the different uses of the fund.

1. MAC

Outside the planning, programming, and budgeting cycle, the ASIF is not extensively used as a management tool by MAC. The management of daily operations illustrates this situation.

The day-to-day management of MAC is concentrated in the 21st and 22nd Air Forces. The 21st Air Force, with headquarters at McGuire Air Force Base, New Jersey, is responsible for MAC operations in the Atlantic Region. The Atlantic Region includes all of Europe, Middle East, Africa, South America, and the Caribbean. The 22nd Air Force, with headquarters at Travis Air Force Base, California, has similar responsibilities in the Pacific Region.

The long-term passenger and cargo airlift schedules are the responsibility of MAC Headquarters, Scott Air Force Base, Illinois. The numbered Air Forces have scheduling responsibility in the short-term. In carrying out this responsibility, each of the numbered Air Forces receives a daily cargo status report from the aerial ports under its control. These reports include such data as total cargo on-hand (both inbound and outbound), time-in-port by priority, required pallet positions, and cargo on-hand by channel. These data are then used by the numbered Air Forces to assign additional aircraft to specific channels, curtail flights, or adjust schedules.

Since the cargo status reports drive many of the day-to-day decisions, the ASIF is not considered a vital source of management information. This is further emphasized by (1) the managers at the numbered Air Forces consider the ASIF merely as an accounting tool to relate costs and revenues after the fact, (2) there are no ASIF/Comptroller/financial personnel assigned to the numbered Air Forces—they are all resident at MAC Headquarters, and (3) the strong influence of other non-financial considerations such as FHPs and air crew training requirements.

In summary, the ASIF is treated primarily by MAC management as a funding mechanism. It is not looked upon as a management tool for operations personnel.

2. MSC

The MSC effectively employs the NIF as a management tool in several situations. The most prominent application is in the selection of the billing criteria on voyages by the controlled fleet. A computer-based simulation model, called PROFORMA,

is used to estimate the cost effectiveness of specific dry cargo voyages. The model relates anticipated ship operating costs, which are a regular output of the NIF, with regular tariff revenues. If the planned voyage results in MSC sustaining a substantial loss, then the customer is charged the full operating cost of the ship (i.e., per diem). Otherwise, the customer is billed the regular MSC tariff.

The MSC Area Commands have responsibility for application of the PROFORMA model. Area Command performance, however, is not judged on the basis of profitability, there are too many factors not under Area Command control.

In contrast to MAC, there is a close relationship between financial and operations personnel at MSC. While mission differences contribute to this situation, they are not dominant. Both situations appear to result from conscious management decisions.

3. MTMC

Because of mission differences, MTMC's use of the industrial fund as a management tool varies greatly from that of MAC and MSC. One MTMC mission is to provide assistance to Service transportation officers in routing overseas-destined cargo to the most cost effective ocean terminal. The factors entering into this determination include the inland transportation and port handling costs (together they form what is referred to as a routing rate). The port handling costs for the MTMC ocean terminals are direct by-products of the cost accounting system supporting the industrial fund. They reflect the actual cost of cargo being processed through the terminal. These costs are updated semi-annually to reflect changes in stevedore contracts, facilities, support capability, etc.

Since port handling costs can be a significant influence on whether cargo is routed to a given terminal, there is substantial and constant pressure on terminal management to hold these costs to a minimum. If terminal management becomes lax, the facility theoretically could cost itself out of existence.

The industrial fund provides further assistance to terminal management by generating function billing rates. Thus, each support function also is under specific pressure to operate efficiently.

In summary, the industrial fund appears to be well understood and used as a management tool by MTMC administrators.

E. PERFORMANCE REPORTING

The general guidance for external TOA financial and performance reporting is provided in DoD Instructions 7410.5[13] and 4100.31.[14] The first Instruction contains the reporting requirements for all DoD industrial funded activities—the second provides specific reporting requirements for the TOAs. The reports generated in response to these Instructions provide only summary level information.

Each TOA provides monthly or quarterly operating reports to OASD(I&L) and OASD(C) plus other interested offices and activities. The amount of detail in these reports varies by TOA but they generally provide financial status, performance data, and traffic statistics. In this regard, OSD reviews MAC in greater depth than MSC or MTMC. MAC has a specific reporting requirement which does not exist for the other TOAs. This requirement is contained in an updated single manager assignment.[15] MAC is required to submit a five-part quarterly report which, in addition to the general operating data required previously, requires information on commercial augmentation and CONUS aerial port performance.

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[13]DoD Instruction 7410.5, "Financial Reports for DoD Industrial Funds," March 9, 1972.

[14]DoD Instruction 4100.31, "Reports on Single Manager Operations," September 2, 1960.

[15]DoD Directive 5160.2, "Single Manager Assignment for Airlift Service," October 17, 1973.

Each TOA also prepares numerous internal reports. These reports are geared toward the specific operating characteristics of each agency and provide a more extensive review of past, current, and forecasted performance. They also provide the basic data for budget preparation and review, financial and operating management decisions within the agency, and tariff setting by OASD(C).

F. FUNDING AND TRANSPORTATION POLICY

The use of the industrial fund concept for the financial management of transportation agencies has fostered an unusual relationship between funding and transportation policy. The availability of extensive cost data has made all levels of DoD and the Military Departments more aware of operating costs, mission costs, unused capacity costs, modal differences, and the like. Thus, in many respects, the industrial funds have had a positive influence on transportation policy.

The negative aspect of the relationship between funds management and transportation policy is that the ready availability of cost data tends to skew policy in the direction of costs while simultaneously degrading mission requirements. This is not to imply that mission requirements are not properly considered in policy-making, but rather that there is so much cost data available (and very little substantive mission data) that the use of cost data almost naturally prevails in establishing transportation policy. It is not possible to tell whether this relationship would also exist under alternative funding arrangements, but most likely it would because of the need for cost visibility.

IV. TOA INDUSTRIAL FUND IMPACT

A. INTRODUCTION

The benefits normally attributed to placing a DoD activity under an industrial fund include:

- the industrial fund requires the establishment of a detailed cost accounting system—the system assists the activity manager in identifying inefficient operations
- industrial fund customers are charged for the services provided thereby generating a cost awareness in both the buying and selling agencies—the buyer is made aware of the cost incurred by the selling activity in satisfying his requirements, while the seller knows he must balance revenues and cost
- the corpus of the industrial fund provides maximum flexibility to the providing activity in satisfying unforecasted demands (as well as the working capital for satisfying regular forecasted demands)—it gives the activity considerable dollar flexibility in responding to user requirements
- the industrial fund requires the buyer of services to plan, program, and budget for his requirements

These benefits, however, were lifted directly from DoD Directive 7410.4 and not based on actual experience or observation. In this section, the impact of the TOA industrial funds is assessed and the specific advantages and disadvantages identified.

B. EFFECTS OF TOA INDUSTRIAL FUNDING

1. Performance Visibility

In compliance with industrial fund regulations, each TOA has implemented a comprehensive cost accounting system. These systems provide TOA management with the capability to identify and correct non-productive or costly operations. They also

facilitate external review by making such information as operating costs, revenues, workload, and resource utilization readily available.

With few exceptions, DoD direct funded activities do not have similar cost accounting systems. As a result, cost and workload data for these activities are seldom related. Thus, the overall performance of these activities is never comprehensively reviewed because the required performance indicators are not available.

2. Buyer-Seller Relationship

While the Services and TOAs have a buyer-seller relationship, the Services have few options if they are dissatisfied with TOA performance. DoD transportation policy greatly restricts the flexibility of the Services in going elsewhere if the TOAs do not perform effectively, thus, the Services are somewhat limited in their role as critics of TOA performance.

3. Operating Flexibility

The industrial fund corpus is critical to an effective operation of each TOA. The corpus gives the TOA considerable flexibility in satisfying Service requirements without a prior transfer of funds. It also benefits the Services when they have unforecasted requirements for which transportation funds are not immediately available. In these situations, the TOAs use the corpus to fund the movement while the Services reprogram the necessary funds.

While the corpus provides the TOAs with expansion flexibility, their ability to reduce capacity commensurate with workload is more limited. This is most pronounced in MAC because of its strong reliance upon organic capability in fulfilling its readiness requirements. This industrial fund limitation, however, is recognized in DoD Directive 7410.4 which allows each agency to direct fund unused capacity. In this situation, the fund is once again advantageous because it identifies, through the highlighting of increased operating costs, the inability of the TOAs to fully match capability and requirements.

Additional factors which contribute to the TOAs not being fully responsive to variable user requirements are the personnel ceilings and constraints on manpower reductions. However, recent Congressional statements on these factors[16] and an on-going review of MTMC manpower practices by the OASD(C) Audit group precluded an in-depth review of this subject matter.

4. Cost Awareness

TOA tariffs must reflect operating costs, thus there is constant pressure on TOA management to hold costs to a minimum. In MSC and MTMC, this pressure has been translated into a general cost awareness throughout the Agency.

By the TOAs charging for their services, cost awareness at the transportation officer (TO) level in the Military Services is enhanced. The TOs are responsible for carrier and mode selection to satisfy a shipment priority requirement at least cost. The TOA tariffs contribute significantly to this decision process.

5. User Discipline

Under the industrial fund concept, the Services must plan, program, and budget for their transportation requirements. This has resulted in the Military Services giving increased attention to their transportation programs and thereby instilling in their members an added discipline in the use of DoD transportation resources.

6. Program Review

TOA program review often focuses on the abundant quantitative performance data rather than the more difficult and usually subjective data on fulfillment of the military mission. While it is natural that the review process concentrate on the more readily available performance indicators, it should not be to the extent that the military mission is relegated to a secondary role. This situation tends to occur frequently under industrial funds.

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[16] In Senate Report No. 94-446, November 6, 1975, the Senate Appropriations Committee took a firm stand against removing personnel ceilings in industrially funded activities.

7. Resource Use

In some respects, TOA tariffs contribute to an inefficient use of organic resources. This situation is most evident in MAC's operation where virtually all its cargo airlift capability is generated through use of organic resources. Since the airlift tariffs are considerably higher than those for sealift, the Services can save transportation funds by moving their overocean cargo by surface. Service transportation policies permit and actually encourage such a diversion. However, the MAC FHPs dictate that the aircraft will be flown regardless of cargo generation. The net result is that the MAC tariff drives cargo toward sealift while MAC is generating airlift capability which is not fully utilized.

8. Industrial Fund Cost

The TOAs and their customers must bear the costs of preparing, processing, and paying TOA bills. This study did not attempt to extricate the cost of these functions. However, such costs, while significant, are not so large as to influence any decision with respect to the overall value of industrial funds. To illustrate, MAC has ASIF personnel only at MAC Headquarters; Eastern Area MTMC routinely sends more bills to tenants than to the users of MOT services; and the Military Services require a substantial organization just to pay commercial carriers and elimination of the TOA bill processing and payment burden probably would not have a substantial effect. Furthermore, the TOA billing costs appear to be marginal when compared with other facets of their operations which must be carried on regardless of the funding method, e.g., cost accounting, planning, forecasting, budgeting, and host-tenant billings.

C. SUMMARY

The preceding discussion on the effects of the TOA industrial funds presented a mixed picture. On one hand, industrial funds surface extensive performance data, create an awareness of cost throughout the DoD, and enhance user discipline. On the other hand, the funds do not represent a true buyer-seller relationship, have limitations on operating flexibility, have led to an excessive focus on financial performance data, and have

contributed to an ineffective use of resources. While the basic industrial fund concept of operation is a factor in these deficiencies, it is not the sole cause. Other factors such as TOA management practices and DoD transportation policy also contribute.

Some of the advantages of industrial funds could also be attained through other funding arrangements. To illustrate, a detailed cost accounting system providing timely financial and related non-financial data can be established under any method of funding, the financial flexibility generated by a corpus can be achieved through another type of funding arrangement, and user discipline would be retained if the Services continued to plan, program, and budget for transportation services. This does not imply that alternative funding methods have fewer disadvantages than the industrial fund, only that many of the advantages are achievable through other funding arrangements. The actual disadvantages will be dependent upon the specific funding arrangement selected.

In summary, the use of industrial funds is neither a panacea for DoD transportation nor the principal cause of current operating problems facing the TOAs.

V. MODIFIED FUNDING APPROACHES

A. BACKGROUND

Over the past several years, MAC has had difficulty in generating ASIF revenues equal to operating costs. Among the reasons cited by MAC for this difficulty is the diversion of airlift requirements to surface movement. MAC frequently has claimed that the Military Services have not generated airlift requirement equal to their forecasts which served as a basis for establishing the airlift tariffs. MAC claims that requirements are being diverted to surface movement to save Service transportation funds. Thus, MAC would size its tariff to generate break-even revenues assuming one level of requirements, but a reduced level was moved. MAC would then incur a loss. Table 2 shows the planned and actual MAC workload from FY 1970 through 1975. It also shows the overall net position of the ASIF by FY. In each of these years, MAC tariffs were based upon the forecasted Military Service used in developing the operating budget. Thus, in four of the six years for which data are displayed, the actual Service use of MAC was less than the forecasted requirement. In three of these four years the ASIF failed to break even. While these data summarize the effects of many extraneous factors, they do indicate that MAC's position on the effect of sealift diversions has some merit.

It is evident from the data displayed in Table 2 (i.e., the inconsistencies and steadily decreasing workload) that there were other factors affecting MAC's ability to break even during the six years. Some of the more prominant factors include (1) introduction of the C-5 aircraft into the MAC fleet—thereby vastly increasing MAC cargo airlift capability, but coinciding directly with a substantial and consistent workload reduction, (2) reduction of hostilities in Southeast Asia (SEA)—which significantly reduced airlift requirements, but not uniformly by Service, (3) dramatic increases in POL costs, and (4) steady increases in maintenance costs of the C-5 and C-141 Aircraft.

TABLE 2. PLANNED AND ACTUAL CARGO MOVEMENTS BY SERVICE VS ASIF PROFITABILITY

FISCAL YEAR		WORKLOAD (TONS) ARMY	NAVY	AIR FORCE	OTHER	TOTAL	ASIF STATUS ($, Millions)
1970	Pres. Bud.	314,740	142,691	259,212	5,190	721,833	
	Oper. Bud.	295,602	134,300	249,876	5,003	684,781	- 26.4
	Actual	257,747	105,726	273,790	21,380	658,643	
1971	Pres. Bud.	278,375	121,609	238,903	4,797	643,684	
	Oper. Bud.	257,505	82,482	220,803	22,932	583,722	+ 10.9
	Actual	158,918	93,918	244,071	29,050	526,757	
1972	Pres. Bud.	241,631	70,680	165,547	10,882	488,740	
	Oper. Bud.	171,855	71,694	171,104	23,254	437,907	- 26.1
	Actual	144,347	92,482	258,216	21,953	516,998	
1973	Pres. Bud.	153,409	86,289	225,105	23,895	488,698	
	Oper. Bud.	127,383	80,526	189,593	7,225	404,727	+ 42.3
	Actual	114,881	93,335	236,896	6,030	451,142	
1974	Pres. Bud.	120,468	82,500	166,897	5,978	375,843	
	Oper. Bud.	102,900	69,081	191,260	4,526	367,767	- 53.1
	Actual	66,447	71,123	148,775	4,602	290,947	
1975	Pres. Bud.	85,647	75,087	165,199	4,010	329,943	
	Oper. Bud.	66,008	70,176	157,003	4,010	297,197	- 31.6
	Actual	55,858	70,979	141,788	4,699	273,324	

Table 3 illustrates the MAC workload reduction from FY 1968 through FY 1975. The table also displays where the reductions occured (i.e., whether by organic or commercial airlift). Concurrent with this workload reduction, MAC was incurring rapidly escalating operating costs, especially for POL and maintenance. Figure 2 shows the cost impact of those factors.

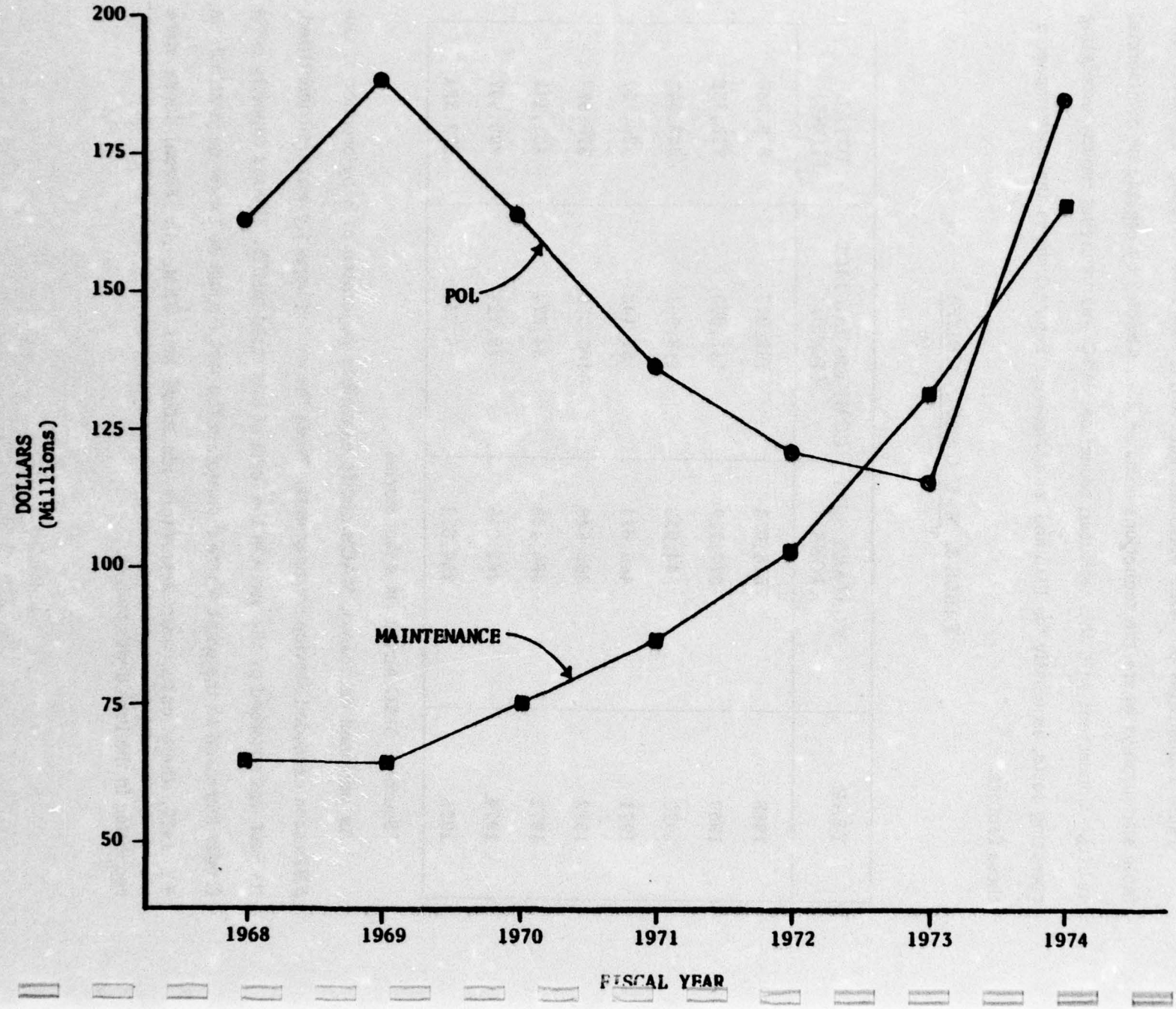
TABLE 3. MAC CARGO AIRLIFT*

YEAR	MILITARY LIFT (TONS)	COMMERCIAL LIFT (TONS)	TOTAL (TONS)
1968	516,016	163,073	679,089
1969	577,719	147,603	725,322
1970	544,652	113,991	658,643
1971	469,614	57,143	526,757
1972	383,648	133,350	516,998
1973	366,468	84,674	451,142
1974	262,219	28,728	290,947
1975	254,572	18,752	273,324

*Source: MAC Airlift Data Summaries

As workload decreased, MAC's airlift capability generated as a by-product of the FHPs soon exceeded Service requirements. When the unused capacity was first identified, its cost was absorbed by the users in the form of increased tariffs. Unused capacity costs finally increased to the point where inclusion in the tariff could no longer be justified. In FY 1977, these costs were separately identified and O&M, Air Force, funds were requested in the President's budget.

FIGURE 2. MAC POL AND MAINTENANCE COSTS



B. ASIF MODIFICATIONS

The unused capacity fund request resulted in expressions of doubt as to the viability of the ASIF as an effective management tool. Several modifications to the ASIF were proposed to strengthen the program.

Four modifications have received extensive attention with two being implemented. The four modifications are: (1) retention of the ASIF, with emphasis on the full use of the airlift by-product through the establishment of token tariffs for otherwise non-air-eligible cargo, (2) retention of the ASIF, with emphasis on smoothing the budget process by establishing stable tariffs, (3) retention of the ASIF, with emphasis on using budgeted airlift funds for the purchase of airlift service through the fencing or flooring of Service transportation funds; and (4) elimination of the ASIF for regular channel cargo to assure full use of available space. The first two have been implemented. A discussion of the strengths and weaknesses of each of these modifications follows.

1. Token Tariffs

In late 1974, the Air Force proposed that cargo not normally air-eligible be moved by MAC at surface comparable rates. It was speculated that such a tariff structure would attract the necessary traffic to more fully utilize MAC airlift capability and to generate additional revenue. The approach also would enable the DoD to realize significant cost savings by avoiding payment of Service transportation funds to commercial ocean carriers through MSC.[17] The approach could be readily implemented in MAC and would not affect the routine treatment and handling of high priority cargo. It also would not disturb the existing DoD transportation structure.

The principal disadvantages of the token tariff modification are: (1) full operating costs may not be recovered by token tariffs and, thus, unused capacity funds would still be required, and (2) procedures would be required to allocate and monitor the flow of surface cargo into the MAC system so as not to engulf the entire airlift system.

[17] The amount of business that would be diverted from MSC to airlift as a result of this approach would have little impact on MSC.

This approach has been embodied in the Transportation Priority 4 (TP-4) Program which was initiated in November, 1974. TP-4 is discussed in detail in Section VI.

2. Stabilized Tariffs

Stabilized tariffs are a means of assuring the Services that funds budgeted and approved to meet logistic airlift requirements will be sufficient. This assurance should reduce financial pressure on the Services to direct cargo from airlift to surface movement and thereby contribute to a closer match of planned and actual airlift requirements. The modification has no impact on the basic concept of industrial funds. The disadvantage of this modification is that, by itself, it does nothing to assure full utilization of MAC airlift capability since its application is limited to air-eligible cargo. The tariff stabilization program was partially implemented in FY 1976, and fully implemented in FY 1977.

3. Flooring of Funds

The concept of flooring, or fencing, Service transportation funds means that the funds appropriated to procure MAC airlift services would be the least amount that each Service could spend for airlift. Each Service would have "drawing" rights on the amount of funds floored, i.e., as airlift service is provided by MAC, the Service would draw from its floored funds to pay for the movement. If requirements do not generate to fully utilize the floored funds or the Service diverts cargo to a surface mode and thereby does not fully utilize the full drawing rights, the funds would belong to MAC. This concept retains the advantages of an industrial fund operation but could result in each Service sharing in MAC readiness cost.

There are a number of disadvantages in this proposed ASIF modification. The principal disadvantage is that it would restrict the flexibility of Service transportation managers in effecting sound transportation practices. If requirements changed, the Service transportation managers would be restricted in their options for accommodating the changes in the most effective manner. In addition, the modification would place too much emphasis on the judgment of budget personnel in determining firm airlift requirements. Thus, airlift requirements (and to some extent strategic support

requirements) would be driven by dollars rather than vice versa. Furthermore, it is only natural that a program of fencing funds would result in low estimates of airlift requirements by the Services. By submitting low estimates, the Services would maximize their management prerogatives, however, such a practice would severely affect MAC programming and budgeting—MAC well could be forced to ignore Service estimates.

An additional deficiency of this modification is that Service transportation managers would frequently be pressured to use cargo not normally air-eligible to fill space already paid for but for which requirements had not been generated. This could lead to a situation in which high and low priority cargo are mixed on a routine basis, thereby degrading the priority system and making a transition to a contingency situation difficult. While the likelihood of this scenario occuring is remote, operating conditions could force the Service transportation managers to forego many of the existing practices that avoid a development of this nature.

Finally, while it is desirable for MAC to be confident that the FHP will be fully funded, MAC should not be relieved of responsibility for identifying ways in which the airlift by-product can be better utilized and for maintaining the proper attention to internal operating costs. Both outcomes could result from fencing Service transportation funds.

4. Direct Funding

The direct funding approach most often discussed affects only channel cargo airlift. Passenger traffic and SAAMs would continue under the ASIF, but channel cargo would be free flow and funded by O&M, Air Force, as a readiness cost.

The premise of the direct funding approach is that free airlift would avoid the uneconomical expenditure of funds for alternative modes of transportation while MAC airlift capability is underutilized. Additional savings would also generate from the elimination of the billing system between MAC and its customers.

On the negative side, the direct funding approach would require the design and implementation of a system for allocating channel space among the Military Services. In addition, all controversies involving space allocation would have to be adjudicated by the Joint Transportation Board. This effort to control the system could easily consume as many resources as required by the present billing procedures thus negating much of the potential savings.

Proponents of the direct funding modification have stressed that the effectiveness of the Uniform Materiel Movement and Issue Priority System (UMMIPS) would be maintained. Cargo would continue to be classified as non-air-eligible or air-eligible. However, there would no longer be a need to police the system.

Given the current workings of UMMIPS (with all its problems), it is very likely that UMMIPS would break down altogether under a free flow movement of cargo, if only from lack of exercise. The breakdown could almost be guaranteed during a contingency because the Services would not be accustomed to screening cargo being moved by air. This may further result in MAC not being fully responsive to contingency requirements because the aerial ports would be clogged. In addition, because of increased workload, MAC could readily justify a greater investment at its aerial ports in manpower, warehouse space, control systems, material handling equipment, and facilities. The end result could be increased operating costs.

The necessity to fully utilize all allocated airlift capability without regard to cost would create conditions that relegate cost of transportation to a secondary position. Transportation managers would no longer be as attentive to costs as they are under the industrial fund. In addition, they would be faced with the illogical situation of paying for surface lift while receiving free airlift. Direct funding of MSC and MTMC could follow.

The requirements for financial management and forecasting of requirements under direct funding would be identical to existing requirements. A detailed cost

accounting system still would be required. Furthermore, assignment of capability to requirements, selection of aircraft, and the like, must still be accomplished. Therefore, the Services would continue to forecast their airlift support requirements even though the budget development exercise was eliminated.

VI. RELATED ISSUES

A. DEFERRED AIR FREIGHT

1. Background

An additional concern raised by the Senate Appropriations Committee in its review of DoD transportation industrial funds was:[18]

> The Committee is of the opinion, however, that the Department of Defense has not taken sufficient steps to retain or expand MAC's business base so as to reduce these unsubscribed flying hours.

The DoD is in the process of implementing the recommendations of two such efforts—the Air Logistics Pipeline Study (ALPS) and the Army's Air Line of Communication (ALOC) study. In addition, a deferred air freight program designed to more fully utilize MAC airlift capability has been in effect since the Fall of 1974.

Under the deferred air freight program, cargo not normally air-eligible is moved at surface equivalent rates in a deferred air service manner. This cargo is considered as Transportation Priority 4, as opposed to the normally air-eligible cargo with the TP-1 and TP-2 designations. Testing of the TP-4 program was concluded on June 30, 1975. Test results showed that the program has merit and could contribute to increased MAC utilization and revenue.

2. Program Description

After its monthly flight schedule is developed, MAC estimates the capability available for TP-4 cargo by channel and direction. This capability is then offered to the Military Services. The Services in turn respond to the offering by informing MAC as to their TP-4 requirements (these do not necessarily have to conform with the MAC offering). After assembling the Service requirements, MAC makes the final allocation of TP-4 capability for the month in question. If the capability over a given channel has been exceeded by Service requirements, MAC allocates the capability based on Service use of the full tariff capability over that channel.

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[18] Senate Report No. 94-446, November, 1975, p. 150.

Until early 1976, the TP-4 capability made available to the Services was predominantly inbound CONUS with very little offered for intra-theater movements. The offered capability coincided with channels over which MSC provided general cargo container service. The TP-4 rates were also based upon MSC container rates plus average documentation and stuffing charges. Since early 1976, MAC program offerings have been expanded considerably. MSC container service no longer dictates TP-4 offers and the rates over these new channels only approximate surface movement cost.

3. Program Assessment

Performance statistics indicate that the program has not improved measurably since conclusion of the test period. Table 4 shows the tonnage offered, allocated, and moved by month through FY 1976. The associated program revenues are also displayed. Based on these data, a typical month in the TP-4 program would have MAC offering the Services slightly more than 4,000 tons in capability, the Services accepting approximately 25 percent of the offered capability, and moving less than one-half of the amount they accepted.

A closer examination of the offered, allocated, and moved data for the first six months of FY 1976 provides additional insight into the program. Table 5 shows that considerable retrograde airlift capability to seven CONUS aerial ports of debarkation (APOD) is not being utilized by the Services. It also shows that the program is seldom used for intra-theater movements—the Services used less than 2 percent of the offered capability (i.e., 7,159 tons were offered but only 142 tons were acually moved).

The TP-4 performance statistics indicate that the program can be significantly improved and that the onus for program improvement rests with the Military Services. This is only partially true, as MAC procedures and the accuracy of the TP-1 and TP-2 forecasts also play strong roles. Concerning the latter point, if high priority cargo forecasts are underestimated, then MAC will offer and probably allocate more TP-4 space over a given channel than will generate. Thus, the anticipated TP-4 capability will not materialize because of increased TP-1 and TP-2 generations.

TABLE 4. TP-4 PERFORMANCE STATISTICS

YEAR	MONTH	TONNAGE			REVENUE
		OFFERED	ALLOCATED	MOVED	
1974	NOV	3,838	981	174	$ 45,820
	DEC	4,629	763	247	51,704
1975	JAN	6,789	1,036	444	84,705
	FEB	5,674	963	481	87,343
	MAR	6,643	1,153	626	128,519
	APR	2,781	1,187	609	123,467
	MAY	2,866	956	494	115,520
	JUN	3,744	1,575	751	157,579
	JUL	3,557	1,483	565	183,526
	AUG	2,120	1,120	513	157,921
	SEP	2,810	718	240	59,883
	OCT	3,787	1,699	638	157,638
	NOV	3,070	1,113	461	115,166
	DEC	2,769	1,331	450	107,457
1976	JAN	3,080	1,047	264*	82,292*
	FEB	5,701	998	198*	58,093*
	MAR	3,295	701	225*	52,558*
	APR	6,637	958	*	*
	MAY	2,570	666	*	*
TOTAL		76,360	20,488	7,380	$1,769,191
MONTHLY AVE		4,019	1,076	478**	112,589**

*Complete data not available.

**Based on figures through December, 1975.

Overseas transportation officers (TOs) represent a key element in maximizing productivity of the TP-4 program. If TOs do not identify cargo for movement as TP-4, the program will subside. For these reasons, the study team met with several transportation officers to obtain a better perspective of the program. These meetings sought to determine TO understanding of the program, the factors contributing to their use of program capability, and ways in which program effectiveness could be improved.

TABLE 5. TP-4 OFFERINGS, ALLOCATIONS, AND MOVEMENTS, FIRST SIX MONTHS, FY 1976

APOD	TONNAGE		
	OFFERED	ALLOCATED	MOVED
EAST COAST			
Charleston AFB	902	154	73
Patrick AFB	333	-	-
Dover AFB	4,122	3,017	1,509
Norfolk NAS	2,435	1,954	537
TOTAL	7,792	5,125	2,119
WEST COAST			
Norton AFB	3,262	216	150
Travis AFB	1,776	362	356
McChord AFB	1,496	169	85
TOTAL	3,534	747	591
ATLANTIC INTRA-THEATER	2,006	1,040	38
PACIFIC INTRA-THEATER	5,153	469	104
TOTAL	18,485*	7,381*	2,852*

*These totals deviate slightly from the data in Table 4. The above data were extracted from monthly offering, allocation, and movement reports, while much of the data given in Table 4 were taken from an informal MAC talking paper on the TP-4 program.

The results of these meetings are summarized below:

a. Purpose

The purpose of the program was universally viewed as taking advantage of unfilled airlift capability and thereby saving DoD transportation dollars.

b. Program Understanding

While most TOs considered the program as another transportation capability of which they must be aware, few understood the workings of the program

within their respective Services. Some did not know how the offering and allocation process worked, others did not know which parent organizations were involved.

c. Eligible Cargo

The TOs were inconsistent in their understanding of eligible cargo. Some TOs stated they moved only household goods (HHG) as TP-4, others said that HHG were not eligible for such movement, while still another stated that HHG should never be moved by air because of rough handling. One Navy TO referenced specific guidance as to cargo eligibility—another Navy TO was not aware of such guidance.

d. Usage Criteria

Several TOs stated the reason they used the allocated space was that their superiors expected them to use it; others found it more economical because of their proximity to aerial ports; while still others used the service because it lowered the transportation dollars going to commercial carriers.

e. Unreliable Service

The Services cannot depend upon the monthly allocations they receive from MAC. The capability may generate at the beginning of the month; it may be spread over the entire month; it may be made available at the end of the month; or it may not materialize at all. Furthermore, in some situations, the allocations are not made available to the TOs in time for them to use the capability. Both MAC and Service procedures contribute to the latter situation.

f. Constraining Practices

If capability does not materialize and the Service does not receive an allocation over that channel for the following month, then the cargo already at the aerial port must be returned to the shipper for movement by surface means or upgraded and moved at regular MAC tariffs. Furthermore, if the monthly allocation over a given channel has been exhausted, then all subsequent TP-4 movements during the month are charged the normal MAC tariff. Both of these practices constrain the Services in program usage.

g. Program Improvement

The TOs and other Service personnel had many ideas on program improvement, including:

- the program must be better sold to the Services, TOs, supply personnel, etc.
- channel allocations must be more consistent and carry an implied guarantee of service
- program rules must be more flexible
- allocations should be offered on CONUS outbound channels

Additional problems not discussed above because they stemmed from isolated situations include parent Service organizations stating that they had no intra-theater requirement when a TO in the Service said that he could use all that was made available; a TO not knowing that his Service had (and did have for several months) intra-theater allocations; and several senior Service representatives not aware of Service TP-4 performance.

In summary, the TP-4 program is an on-going effort by the DoD to better utilize MAC airlift capability. However, for many reasons, the performance of the program has not improved appreciably since its introduction.

B. VALIDATED FREQUENCY CHANNELS

1. Background

A validated frequency channel is a channel over which MAC is obligated to provide a specified minimum frequency of service regardless of cargo moved. This service normally is justified on the basis of operational necessity, support of mission sensitive areas, or morale purposes.[19] It contrasts with requirements channel service in which flight schedules are dependent upon the volume of traffic forecasted by the user. As of April 30, 1976, approximately 40 percent of all MAC channels were validated frequency channels (see Table 6).[20]

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[19] Air Force Regulation 76-38, "Military Airlift Command—Requirements, Submissions, Space Assignments and Allocations, and Priorities," August 8, 1974

[20] Source: MAC Sequence Listing for Channel Traffic, April 30, 1976.

TABLE 6. MAC CHANNELS, FY 1977

	CHANNELS		
	REQUIREMENTS	FREQUENCY	TOTAL
21ST AIR FORCE			
CONUS OUTBOUND/ INBOUND	41	31	72
INTRA-THEATER	77	69	146
TOTAL	118	100	218
22ND AIR FORCE			
CONUS OUTBOUND/ INBOUND	48	2	50
INTRA-THEATER	48	55	103
TOTAL	96	57	153
TOTAL MAC	214	157	371

MAC charges users of validated frequency channel airlift the normal ton-mile and passenger-mile rates. Because of low requirements on many such channels, the revenues are not commensurate with MAC operating cost. Thus, MAC sustains a "loss" on these channels. The losses are being underwritten by movements on other MAC channels (including both validated frequency and requirements channels).

In 1972, the General Accounting Office (GAO) stated that development of a tariff system which more closely reflected MAC operating costs would have significant benefit to the DoD.[21] Specifically, GAO stated that if tariffs were more reflective of operating costs

> Managers would then have meaningful financial information which should be considered, along with military requirements, in the process of deciding whether services should be initiated, expanded, or continued.

In addition, it was thought that users would reassess their frequency channel requirements if they had to pay the full mission cost.

[21] "Increased Use of Financial Data and an Improved Tariff System Needed by the Military Airlift Command," General Accounting Office, January 5, 1972.

The GAO position has had a mixed reception in the DoD: some offices concur–others disagree. The issue is raised in this report because it is implicit in the Congressional concerns about TOA industrial funds.

2. Procedures

All requests for validated frequency channel service are submitted to the Directorate of Transportation, Office of the Chief of Staff, United States Air Force (HQ, USAF/LGT). The requests are then forwarded to MAC for development of preliminary plans for satisfying the requests.

Requests for new validated frequency channel service are subjected to a cost analysis. If MAC estimates that it will incur a substantial deficit by satisfying the request, the situation is brought to the attention of the requesting command. This action has resulted in some validated frequency channel requests being dropped.

On existing validated frequency channels, Air Force Regulation (AFR) 76-38 states that detailed airlift cost and ASIF revenue data will be made available semi-annually for those validated frequency channels with low productivity. MAC and HQ, USAF/LGT have yet to take such action, even though the Regulation has been in effect since August 8, 1974.

Discussions with HQ, USAF/LGT representatives revealed that they plan to review a portion of the validated frequency channels each month. They have found that a semi-annual review, as per AFR 76-38, is not feasible because of insufficient personnel.

The HQ, USAF/LGT representatives also stated that the approximately 80 intra-theater validated frequency channels served by C-130s were never subjected to an initial cost analysis. The principal reason given was that these validated frequency channels were accepted intact to ease the C-130 consolidation into the MAC fleet. It is planned that these channels will be reviewed after operating under the MAC system for six months.

3. Balancing Costs and Revenues

The treatment of validated frequency channels has changed little since the 1972 GAO report. Even though cost considerations were added to AFR 76-38, this action has had little impact. Cost is never the basis for dropping validated frequency service, nor should it be if the requirement is valid. This last point was the primary focus of the GAO. If the users were billed the full cost for MAC responding to their frequency requirements, the marginal requirements would evaporate because their military mission could not justify the cost.

In theory the basic GAO concept has application not only to validated frequency channels but also to regular requirements channels. Few of these channels achieve an approximate break-even position over an extended time-frame. However, an extension of the concept to these channels could introduce a number of difficulties. These include:

- each channel would require a separate tariff
- each schedule change would necessitate a new break-even computation
- shippers would require price-breaks for volume movements and/or request rebates on profitable channels or flights
- the accuracy of channel workload forecasts would have to be improved to assure equitable tariffs
- the Military Service transportation budget development process would be extremely cumbersome unless aggregate tariff rates were used, but then relating the budget to actual performance would not be fruitful
- effective administration of such a tariff structure would be nigh impossible
- the rate stabilization program would no longer apply to MAC

Because of these deficiencies, application of the GAO concept should be limited only to traffic moving on validated frequency channels.

The GAO concept should be further limited by not applying it to flights (or segments) which routinely move channel traffic and concurrently satisfy the validated frequency requirements, or to validated frequency channels over which cargo generation causes more than the minimum number of flights to be flown.

If the first restriction was not adhered to, cargo moving on the same flight with identical priorities would be charged different rates. Service reaction to this billing practice would be to modify destinations so as to reduce MAC payments. Cargo would then be re-introduced into the MAC system for movement over the final leg. The net result would be considerable distortion of DoD distribution patterns and increased MAC paperwork.

The second restriction differs very little from normal requirements channel traffic—the workload dictates flight frequency. Similar treatment should then be accorded the cargo moving on such flights.

In neither of these situations is the minimum frequency requirements causing MAC to incur unnecessarily high operating costs. Thus, cargo moving on such flights would be assessed the normal MAC tariff.

The preceding limitations on concept application greatly simplify the requirements for full allocation of cost methodology (which has been purported to be the stumbling block in implementing the GAO recommendation). One minor area of concern remains, however—the joint use of a frequency channel flight by more than one Service. The situation can arise through MAC satisfying two Service requests by a joint mission or when Services other than the requestor move cargo over a given channel.

One method of cost assignment under either of the above circumstances is to charge the dominant user the existing SAAM rate. (The dominant user could be either the requestor or the largest shipper over the preceding six months.) All other shippers moving traffic over the channel would be charged the normal MAC rate. And, as is current MAC

practice on SAAM billings, the Service paying for the SAAM (in this case the dominant user) would be given credit for these amounts.

4. Summary

There is little argument about the validity of the GAO concept for charging MAC users the full economic value of the requested service and that the Air Force is long overdue in evaluating the cost effectiveness of validated frequency channel service. If the concept was implemented, it would strengthen both the transportation program of the shipper (through evaluation of full MAC operating costs) and the ASIF. However, from a management perspective, the concept only has application when the minimum frequency requirements dictate the flight. If applied to other channels/flights, effective administration of both MAC and the transportation programs of the shippers could not be realized.

C. ADMINISTRATIVE AIRCRAFT

1. Background

On July 1, 1975, MAC was assigned responsibility for administering the Air Force administrative aircraft program. Prior to this assignment, program responsibility had been diffused over several commands.

The objective of the program is to maintain flying proficiency of Air Force personnel in non-flying assignments. The 89th MAW has responsibility for this portion of the program.

Currently, 1,600 pilots are using 104 T-39 CONUS based aircraft to maintain flight proficiency. The aircraft are assigned to 15 bases, depending upon the number of pilots to be supported within a 50 mile radius. The T-39s are of a mixed configuration—some can carry only three passengers while others can carry five and six passengers.

The approved FHP for the T-39 fleet is 110,000 hours. Approximately 22 percent of the FHP is devoted to local training. The remainder of the program is used to transport Air Force personnel within CONUS. The Deputy Chief of Staff for

Operations (DO), MAC Headquarters, has the responsibility for matching passenger airlift capability (generated as a by-product of the FHP) with the transportation requirements of Air Force personnel. The DO also has responsibility for scheduling several larger aircraft (i.e., C-131s, C-135s, etc.). These aircraft primarily are used for group movements such as Inspector General teams. Such use was not reviewed by this study. Therefore, the remainder of the comments in this section pertain only to the T-39s.

DoD policy and guidance for the use of administrative aircraft is contained in DoD Instruction 4500.38.[22] The Instruction states:

> Aircraft assigned to military activities or agencies for the purposes of administrative support air transportation may also be utilized for maintaining aircrew proficiency where the capability therefore is generated as a by-product of administrative support activities.

The Air Force administrative aircraft program is treated exactly opposite to the manner prescribed in this Instruction—the FHP is the principal factor, not the administrative support.

2. Program Operations

Over 100 Air Force organizations submit their transportation requirements directly to the MAC Administration Center. A twelve-step priority system has been established for ranking all requirements (see Figure 3). MAC then applies the available aircraft (which each local unit detachment commander has made known to MAC) to these requirements by priority and destination. All passengers are moved free as the entire program is supported by direct appropriation.

Some factors governing MAC management of the T-39 administrative aircraft program include:

- the program serves only Air Force personnel
- commercial augmentation is never procured, service stops when the FHP is exhausted
- temporary duty costs and time away from regular assigned duties for the pilots are held to a minimum

[22] DoD Instruction 4500.38, "Administrative Support Air Transportation," February 12, 1973.

- the requesting office is charged with validating its requirements and priority assignment
- passenger requirements dictate flight schedules, usually with a very short leadtime

MAC uses three non-financial indicators to monitor program performance: (1) passengers moved per month, (2) passengers moved per sortie, and (3) percentage of requests supported. Tables 7 and 8 provide historical data on each of these indicators. Informal program goals are to move 10,000 passengers per month, four passengers on each sortie, and satisfy 50 percent of all requests. Tables 7 and 8 show that considerable improvement is required before these goals are routinely attained.

FIGURE 3. AIRLIFT PRIORITIES, AIR FORCE ADMINISTRATIVE AIRCRAFT PROGRAM

1. Directed by HQ USAF as flights of an emergency nature and/or vital to national interest.
2. Directed by HQ USAF (CV) to conduct extremely urgent official business.
3. To transport general officers and civilians of comparable grade conducting urgent official business, with precedence determined by rank/grade.
4. Directed by HQ USAF/DCS or equivalent (see note) and command sections of MAJCOMs or SOAs as flights required to conduct urgent official business. (Note: AF Special (e.g., NB, CHO, HC, IG, JA, SG, IN, SA, RE, NGB, CMS))
5. Directed by AF/IG or AFISC to transport personnel conducting IG inspections.
6. Directed by MAJCOM IG to transport personnel conducting IG inspections.
7. Directed by MAJCOMs or SOAs to transport personnel conducting standardization evaluations.
8. Directed by HQ USAF (DCS or equivalent levels), or by MAJCOMs or SOAs as flights required to conduct essential official business.
9. Directed by numbered Air Force, AFR Region, ALC, TAG, TTC and MTCS as flights required to conduct essential official business.
10. Directed by Air Division/Center (Non-SOA) as flights required to conduct essential official business.
11. Directed by wings as flights required to conduct essential official business.
12. All other requests to conduct routine official business.

TABLE 7. T-39 PASSENGER MOVEMENTS

MONTH		PASSENGERS MOVED	PASSENGER SORTIES	PASSENGERS PER SORTIE
1975	JUL	5,495	1,894	2.90
	AUG	7,915	2,504	3.16
	SEP	8,844	2,835	3.12
	OCT	9,001	3,028	2.97
	NOV	9,289	3,016	3.08
	DEC	7,678	2,546	3.02
1976	JAN	9,686	3,104	3.12
	FEB	9,508	2,832	3.36
	MAR	10,448	3,096	3.37
TOTAL		77,864	24,855	3.13

TABLE 8. T-39 AIRLIFT REQUESTS

MONTHS		REQUESTS		SUPPORT RATE (%)
		CONSIDERED	SUPPORTED	
1975	JUL-SEP	19,045	8,407	44
	OCT-DEC	22,864	8,594	38
1976	JAN-MAR	23,596	10,754	46
TOTAL		65,505	27,757	42

Operating costs are not a factor in program review. The program administrator is not aware of these costs, nor does he participate in budget development.[23]

[23]The total budget for the T-39s in FY 1977 is approximately $24 million. This does not include military and civilian pay for the 53 individuals assigned to the MAC Administration Center.

3. Task Relationship

In 1974, both the Surveys and Investigations Staff of the House Appropriations Committee and the OSD Audit Group reviewed the use of administrative aircraft within the DoD.[24,25] These reviews uncovered many abuses. The Air Force administrative aircraft program was structured to preclude the reoccurrence of many of the previous abuses. However, some offices within OSD are concerned that the Air Force program is not controlling the use of administrative aircraft to the extent desired. The solution often proposed is to place the T-39s under the ASIF. It is speculated that if the program is on a pay-as-you-fly basis, abuses will no longer occur and the overall program will be strengthened. Our interest in the program was to determine the validity of this argument.

4. Administrative Aircraft and the ASIF

If the T-39s were industrially funded:

- the using commands would have to plan, program, and budget for their requirements
- the total cost of the program would surface
- it would open the airlift capability to more than Air Force personnel
- MAC would be required to develop tariffs to generate revenues approximately equal to operating costs

Only the latter action would have a significant impact on the program. As a means of estimating the extent of this impact, the following analysis was performed.

Since the FY 1976 program cost for the T-39s was $24.0 million, the average monthly cost is approximately $2.0 million. During May 1976, 8,541.9 hours were flown at an average cost of $234 per hour. Three T-39 flights were selected from those actually flown during the month. These flights had from four to six sorties each. One flight had no positioning/depositioning sortie, while the others had one and two, respectively.

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[24] "Report on the Command Administrative and Base Station Administrative Support Aircraft of the Military Departments," Surveys and Investigation Staff, House Appropriations Committee, April 1974.

[25] "Report on the Interservice Audit of Support Aircraft Utilization," Audit Report No. 491, Office of the Assistant Secretary of Defense (Comptroller), Deputy Comptroller for Audit Operations, May 2, 1974.

Theoretical tariffs were estimated for each sortie based on actual flying time and assuming that MAC achieved its goal of four passengers per sortie. Total flight costs were then compared with commercial costs taken from the Official Airline Guide plus a token charge for local transportation. In each case, it was cheaper to use commercial airlines rather than MAC.

While this simple analysis does not offer conclusive proof that the T-39s are not and never can be competitive with commercial airlines, it certainly lends credibility to such a conclusion. The differential would be even more exaggerated if the tariffs were determined more accurately. That is, if they were structured to account for positioning/depositioning legs and a passenger per sortie ratio more reflective of actual experience.

If the T-39s were placed under the ASIF, MAC probably would focus on eliminating positioning/depositioning legs to the maximum extent possible, and increasing the passenger per sortie ratio. However, neither action would be sufficient as the users would be economically forced to select commercial transportation rather than MAC. The end result would be a drop in T-39 utilization leaving a training program which could not generate revenues that would offset operating costs. Direct appropriations would be required to make up the differential.

D. TACTICAL FLEET OPERATIONS

1. Background

Beginning with FY 1976, MAC was assigned funding responsibility for the tactical airlift fleet (i.e., the C-130s). Operational control of the aircraft remained with theater commanders. In FY 1977, MAC was further assigned operational responsibility for CONUS based C-130s, while in overseas theaters, MAC responsibility was limited to management of the airlift fleet. Theater commanders retained operational control of the aircraft. All aircraft were brought under the ASIF at the beginning of FY 1977.

For CONUS based aircraft, the C-130 peacetime flying hour program for FY 1977 was fully subscribed through JA/ATTs, exercises, and training. In overseas theaters,[26] however, a significant portion of the FHP was available for movement of cargo and passengers. The effective application of this airlift by-product is now the responsibility of MAC. Because the C-130s are industrial funded, the cost of using this capability must be borne by the shipper or parent organization. Prior to the funding change, all cargo/passengers transported by these aircraft were moved at no cost to the shipper.

To carry out its management responsibilities in overseas theaters, MAC, in cooperation with theater commanders, has established Theater Airlift Managers (TAMs).[27] The mission of the TAM is to satisfy theater airlift requirements expeditiously and in a cost effective manner. (The TAMs also have many more specific airlift responsibilities.) One alternative available to the TAM for cost reduction is a closer matching of airlift capability to cargo requirements. Thus, C-141s may be assigned to move intra-theater cargo where previously the smaller C-130s were exclusively assigned. The TAM, through its parent numbered Air Force, can make such aircraft assignments.

The matching of airlift capability to cargo requirements has been touted as one of the significant benefits of placing the C-130s under the ASIF. Others include increased cost consciousness, a single airlift manager in the theater, and more effective use of the FHP by-product.

The placement of the C-130 aircraft under the ASIF was of interest to this task because of its potential contribution to determining the "cost" of an industrial fund. In addition, it provided an opportunity for a closer review of industrial fund application and the anticipated benefits derived therefrom.

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[26] In particular, the European and Pacific Theaters.

[27] In the European Theater, the TAM concept is embedded in the Military Airlift Center - Europe (MACE).

2. Assessment of ASIF Extension[28]

The following assessment of extending the ASIF to the C-130 fleet assigned to the European Theater is based upon onsite reviews that took place prior to the actual implementation. Discussions were held with representatives from:

- United States Air Forces in Europe (USAFE)—the Air Force Component Commander through which CINCEUR exercises operational command of theater assigned airlift forces
- 435th Tactical Airlift Wing (TAW)—the MAC organization which has overall command of MAC airlift forces assigned in Europe,
- Military Airlift Center - Europe (MACE)—the European Theater airlift manager which satisfies theater requirements through assignment of MAC airlift capability.

As noted previously, discussions also were held with various transportation officers throughout the theaters. These discussions resulted in the following conclusions:

a. Planning

The planning for the funding change appears to be comprehensive. The planning includes selling the ASIF concept, documentation training for involved personnel, and anticipating contingency funding problems. Concerning the latter point, the Air Force Logistics Command (AFLC) has agreed to floor second destination transportation (SDT) airlift funds. This action will insure that a certain level of funds will always be available for the C-130s (and other Air Force airlift requirements) regardless of the financial pressure on AFLC's SDT program.

b. Increased Discipline

There will be increased discipline on the part of the shipper as a result of placing the C-130s under the ASIF. The increased discipline will surface in two distinct areas: actual use of the FHP by-product and airlift planning. Since the shipper must pay

[28]This assessment is restricted to the C-130s in the European Theater—use of the aircraft and funding change in other theaters was not reviewed.

for airlift, all requirements will be carefully reviewed. From the planning perspective, the shipping service will be forced to forecast its annual airlift requirements and monitor its usage versus these requirements.

c. Cost

The primary cost of the C-130s coming under the ASIF will be in the area of additional support personnel required by the 435th TAW. It was estimated that the 435th TAW would require 14-17 additional personnel to handle the increased paperwork resulting from the funding changes. Offsetting cost benefits could not be identified. The MACE would not require new positions—its staffing requirements would be filled with USAFE and 435th TAW personnel currently performing similar duties. All this would be accomplished within existing personnel ceilings.

d. Aircraft Utilization

The utilization of the airlift by-product generated by the FHP will drop after the C-130s are placed under the ASIF. Even though there is little utilization data available on the use of the C-130 prior to coming under the ASIF, the increased discipline generated by the ASIF will necessarily cause some airlift requirements to evaporate. The end result will be lower utilization.

e. Capabilities/Requirements

Under existing policies, a closer match of intra-theater airlift capabilities and requirements will be of marginal benefit to the DoD. Throughout the theater, it was implied that airlift capability generated as a by-product of the C-130 FHP has historically exceeded intra-theater airlift requirements. Since the FHP must be satisfied, a closer match of capabilities and requirements will result in the specific identification of C-130 non-productive flying hours. As an alternative use for such hours has not yet surfaced, the benefits are questionable. The flooring of Air Force SDT airlift funds also contributes to this observation.

E. NORFOLK OCEAN TERMINAL

1. Terminal Operations

The Water Freight Department (WFD) at Norfolk Naval Station provides terminal support to MTMC on a reimbursable basis through a interservice support agreement. The support includes loading and discharging MSC ships, stuffing containers, and manifesting cargo.

The WFD is part of the Naval Supply Center (NSC), which is supported by direct appropriation through O&M, Navy. The primary mission of the WFD is fleet support. It employs approximately 360 civil service personnel, with nearly 100 of these serving primarily as stevedores. Additional stevedores are under contract on an as-needed basis. The contract stevedores work only MSC ships.

The WFD operates under a job order system. All hours applied to a given function are accumulated by job, whether or not the job is reimbursable. MTMC does not reimburse the WFD directly for the costs incurred in satisfying its requirements. Rather, reimbursements are tied to WFD productivity, i.e., the number of MTONs loaded, discharged, stuffed, etc. The costs incurred by the WFD in providing these services, however, form the basis for negotiation of the reimbursement rates with MTMC.

To support its cost claims, the WFD has a detailed cost accounting system. The system is not implemented in the same degree elsewhere in the Supply Center, even though there are many common elements. The reimbursable portion of the WFD equates to approximately 10 percent of total NSC operating revenues.

2. Assessment of Operations

Even though the WFD is supported by direct appropriation, it essentially operates as if it was an industrial fund activity.

a. Corpus

The MTMC corpus provides the same flexibility to the WFD as it does to the MTMC ocean terminals and outports. The Supply Center provides a corpus-like flexibility to the WFD. If both MTMC and Navy workload are curtailed, WFD personnel

can be assigned to other positions in the NSC. When the workload picks up, they can be reassigned back to the WFD.

b. Cost Consciousness

The WFD has a detailed cost accounting system which is comparable to those being used by industrial funded activities. As a result of this system and MTMC reimbursable procedures, WFD managment is under constant pressure to maximize productivity while holding costs to a minimum. Until recently, the primary focus has been on the former, but now more cost information is being provided WFD managment.

c. Buyer-Seller Relationship

The WFD has a buyer-seller relationship with MTMC and with the shippers whose cargo is moved in and out of the terminal. These organizations serve as effective critics of WFD service, both in terms of quality and cost.

In summary, the WFD at the Norfolk Naval Station operates as if it was an industrial fund activity, yet it is supported by direct appropriation funds.

VII. CONCLUSIONS AND RECOMMENDATIONS

A. INDUSTRIAL FUND OPERATIONS

The TOA industrial funds set the tempo for transportation throughout the DoD. By charging the users for services provided, the TOAs contribute to shipper cost consciousness. Such cost consciousness is critical to an effective application of transportation dollars by the Services. If free transportation were provided, the economic values of the carrier/mode decision process would be severely distorted. The net result would be a decrease in the effectiveness of the Service transportation programs.

The industrial fund is an effective management tool. We have not seen any evidence to the contrary. In those situations in which the industrial fund is not being used effectively as a management tool, it is a conscious management decision. Other factors such as military mission or flying hour program tend to dominate agency decisions.

The industrial fund is not an accounting gimmick. Even though all industrial funded activities are required to have detailed cost accounting systems, the establishment of such systems is not the purpose for placing the activity under the industrial fund. The cost accounting systems provide the needed operational data to support current and planned programs and they increase the visibility of problem areas.

Industrial funds have often been blamed for many of the finanacial and operating difficulties of the TOAs. In many cases, DoD transportation policy and practices and/or the changing environments in which the funds operate were the primary factors. To illustrate:

- the frequency and extent of tariff changes were management prerogatives, they were not dictated by the enabling legislation nor DoD policy
- the relatively high MAC tariffs have resulted from reduced requirements, higher than anticipated operating costs, and uncertain policy as to flying hours and

treatment of readiness capacity—the ASIF simply made the effect of these factors more visible.

Even though the industrial fund is an effective management tool, it does not necessarily follow that the concept should be universally applied. Some activities have too narrow a scope and thus the relationship among capability, requirements, and mission precludes the industrial fund application. Still other activities operate under a direct funding banner, yet they function as if they were industrial funded. If the funding of these activities were changed to the industrial fund, there would not be an appreciable change in operation.

The TOA industrial funds have been under considerable pressure in recent years because of changes in operating environment—requirements have dropped off, operating expenses have steadily increased, the Services have pressing alternative uses for transportation dollars, etc. The funds, however, have performed well under such pressures. They have routinely surfaced increased operating costs; they have contributed to increased cost awareness in the transportation programs of the Services; and they have highlighted the effects of various OSD and TOA management decisions.

RECOMMENDATION 1: It is recommended that MAC, MSC, and MTMC continue to be industrial funded.

B. DEFERRED AIR FREIGHT

The deferred air freight or TP-4 program is designed to more fully utilize MAC airlift capability. While the program has been in effect for nearly two years, it has yet to reach its full potential. Some of the factors contributing to this situation are:

- program inflexibility—several program practices, such as monthly space allocations by Service and channel, are too restrictive
- inadequate service—the Services cannot depend upon their allocations being made available during the given month, plus, in some situations, the allocations are not fully utilized because of inadequate leadtime

- lack of commitment—neither the Services nor MAC have made the necessary commitment to insure a successful program.

Within the Services, there is confusion as to eligible cargo, program use, forecasting procedures, and available channel allocations. These factors have contributed to an underutilization of the offered space. From MAC's perspective, the program has been relegated to a secondary role. This has resulted in the program being ineffectively sold initially and, thereafter, not oriented to best satisfying user requirements.

The recent Congressional decision on MAC unused capacity funding has placed considerable pressure on the DoD to identify additional airlift cargo requirements. While the ALPS and ALOC efforts may generate additional requirements, they undoubtedly will fall short of generating the required revenues and fully utilizing MAC capability. An expanded and revised TP-4 program, however, has the potential to make significant contributions both in terms of revenue and workload. It would also generate additional savings to the DoD by avoiding the procurement of commercial shipping capability. A conservative estimate of such savings is $5-7 million annually.

To increase program effectiveness, emphasis must be switched from a MAC oriented program to one which is DoD oriented. This will require the OASD(I&L) to become more involved in the program. The involvement could include the OASD(I&L) outlining a revised program, tasking MAC to develop a plan for achieving program goals, reviewing the MAC plan and soliciting comments from the shipper services, directing plan implementation, and monitoring program performance.

RECOMMENDATION 2: It is recommended that the ASD(I&L) direct and monitor the restructuring of the TP-4 program to improve its productivity.

Appendix B outlines several options available to the ASD(I&L) for increasing the effectiveness of the TP-4 program. If these, or similar options are implemented, considerable progress will have been made toward achieving the full potential of the program.

C. VALIDATED FREQUENCY CHANNELS

The issue of tariffs and operating costs being in balance was initially raised by the GAO four years ago. The GAO suggested that the requesting agency be billed for the cost of providing validated frequency service.

LMI concurs, in principle, with the general concept that MAC tariffs for validated frequency service should be reflective of operating costs. However, because of the confounding of regular requirements and validated frequency channel traffic on many flights and cargo generations resulting in more than the minimum service being provided, the concept has limited application. The concept should be applied only to those frequency channel flights in which the minimum frequency requirement routinely dictates the flight. Under these circumstances, the requesting Service should pay the full MAC operating costs.

MAC will have 157 validated frequency channels in effect during FY 1977. Based on existing schedules, it is difficult to identify those which satisfy the above criteria. Therefore, the potential magnitude and impact of the tariff change has not been estimated. Further discussion of modifying the MAC tariff structure should be withheld until such an assessment has been accomplished.

RECOMMENDATION 3: It is recommended that the ASD(I&L) task MAC to conduct an analysis of validated frequency channel performance during the first quarter of FY 1977.

The analysis should be made available to the ASD(I&L) no later than March 1, 1977. The analysis should clearly identify each validated frequency channel, the method of satisfying each validated frequency requirement, those flights which were dictated by the minimum frequency requirement, and the profit/loss incurred by MAC on the minimum frequency flights. The outcome of such an analysis should provide the ASD(I&L) with appropriate information for follow-on action, if it is warranted.

This recommendation may be questioned in some quarters because of MAC and HQ, USAF/LGT plans to (1) review C-130 intra-theater validated frequency channel

performance after the first six months of FY 1977, and (2) review a portion of the remaining validated frequency channels on a monthly basis. However, the past performance of these Air Force components on the subject matter has not been positive. Thus, the ASD(I&L) must take the initiative.

D. ADMINISTRATIVE AIRCRAFT

Prior to FY 1976, the T-39 administrative aircraft program of the Air Force was administered by several commands. However, because of many abuses identified in the program, management of the program was assigned to MAC on July 1, 1976. While the overall program is driven by flying hours, MAC's Administration Center attempts to maximize use of the passenger airlift by-product. Since the program is direct appropriation funded, the by-product is free to users.

It is the position of some organizations that the T-39s should be industrially funded. Some of the reasons given for this position include increased discipline and elimination of unnecessary movements. It is the opinion of LMI, however, that industrially funding the T-39 would have an adverse impact on the Air Force program. The T-39 tariffs, if competitive with commercial airline tariffs, could never generate revenues to offset total program costs. Thus, some direct funding would be still required. Furthermore, the total cost to the DoD would increase. The T-39 program cost would remain unchanged but the tariff system would drive many users to commercial airlines where previously they were moved under the T-39 FHP. This would be at an additional cost to the DoD.

LMI also concludes that the existing program is well managed. Several performance measures are available and in use by program management. Placing the program under the industrial fund at the present time would not contribute to better management.

RECOMMENDATION 4: It is recommended that the T-39 administrative aircraft program of the Air Force continue to be funded through direct appropriation.

It is suggested that T-39 program performance be routinely monitored by OASD(I&L). A sample format of a quarterly report on the program is given in Appendix C.

It is also suggested that the ASD(I&L) revise the emphasis of DoD Instruction 4500.88 from administrative support to maintaining aircrew proficiency. Such a revision appears to be a necessary first step in improving the use of administrative aircraft within the DoD.

COPY

APPENDIX A

ASSISTANT SECRETARY OF DEFENSE

Washington, D. C. 20301

Installations and Logistics DATE: 10 MARCH 1976

TASK ORDER SD-321-48
(Task 76-7)

1. Pursuant to Articles E-1 and E-3 of the Department of Defense Contract SD-321 with the Logistics Management Institute, the Institute is requested to undertake the following task:

A. TITLE: Industrial Funds for Transportation Management

B. BACKGROUND: The Senate Appropriations Committee has expressed concern that the industrial funds of the Single Manager Operating Agencies (MAC, MSC, and MTMC) may not be effective management techniques. The Committee cites the continued need for additional appropriated funds, especially for MAC. The DoD has been directed to reevaluate its use of industrial funds for transportation management.

C. SCOPE OF WORK: The Logistics Management Institute is requested to review the industrial fund operations for MAC, MSC, and MTMC. In particular, LMI is to (1) contrast the respective roles of the three industrial funds, (2) examine the feasibility of using stabilized tariffs, (3) evaluate alternative methods of funding, (4) assess the effect of unsubscribed capacity, and (5) review the relationship between transportation policy and industrial fund management.

The report will document the present use of industrial funds for transportation management and address alternatives and recommended modifications to on-going practices.

2. SCHEDULE: Progress briefings will be provided the Sponsor each month beginning in March. The task study plan will be discussed in the initial briefing. A final report will be produced by 29 October 1976.

/s/ John J. Bennett

ACCEPTED /s/ Hugh Mc Cullough

DATE 12 March 1976

APPENDIX B

IMPROVING THE TP-4 PROGRAM

The following suggestions are potential actions that can be taken to improve the productivity of the TP-4 program. As the basic program mechanics are in place, it should be relatively easy to build upon these mechanics to insure increased utilization and operating revenues.

1. Program Description

While the objectives and procedures of the TP-4 program were set forth during the program test phase, they have not been updated nor broadened since that time. As a result, a description of program objectives, procedures, and practices is required. The ASD(I&L) should task MAC to prepare such a document so all users will have a similar perception of the program and fully understand individual responsibilities. The ASD(I&L) should also review the document prior to distribution. The description should include:

a. A statement of program objectives with particular emphasis on capturing benefits to the DoD rather than MAC.

b. Specific requirements, timing, and responsibilities of MAC and the users concerning forecasts, offerings, acceptances and utilization of space.

c. Rules governing movement of cargo and responsibilities of all parties. These rules must be structured so as to encourage business rather than discourage it as often occurs under current operating procedures. A description of actions to be taken when expected space has not generated should be specifically covered.

d. Reporting procedures which enable MAC to have advance knowledge of TP-4 requirements. This will permit MAC to reschedule aircraft or add

flights when such actions can be taken within the flying hour programs. It should be incumbent upon MAC to inform the user when airlift capability cannot be provided.

e. An identification of the TP-4 cargo best suited for airlift. The identified cargo should be that which would result in the maximum saving to the DoD by avoiding procurement of commercial surface lift.

f. Procedures for monitoring program performance on a routine basis. This monitoring should result in a quarterly report of forecasts, offerings, acceptances, utilization and revenues by channel. These reports should serve as a basis for identifying areas for improvement, with distribution to MAC, ASD(I&L), ASD(C), and the Services.

The Services should also have input to this document as they could assist in clarifying past misunderstandings.

2. Service Responsibility

To assist in compliance with the above guidelines, each Service should select a specific activity to be responsible for administering its program (the Naval Material Transportation Office has been given such responsibility for the Navy). The designated activities should monitor forecasts, offerings, acceptances, and utilization of space to assure maximum participation. In addition, each theater commander should select an activity to be responsible for monitoring the use of intra-theater TP-4 capability.

3. Unused Capacity

One of the problems in taking maximum advantage of unused capacity is a lack of clearly stated policy. When the TP-4 program was first implemented, there were no stated limitations on its application. However, the Air Force interpreted original OSD guidance to mean channel missions only, no TP-4 dedicated SAAMs could be established. The ASD(I&L) should restate TP-4 program policy to insure full use of program capability. Whenever unused flying hours exist, they should be productively applied to

the TP-4 program. One such opportunity exists in the movement of HHG during summer months.

4. Revised Scheduling Procedures

Existing MAC procedures for matching airlift capability and Service requirements dictates minimum excess capability. For most channels, this practice should continue. However, it is unrealistic to assume that all outbound missions are fully utilized and incapable of carrying TP-4 cargo. ASD(I&L) should task MAC to make a close examination of outbound flights, particularly those on high-volume channels where revised scheduling procedures could generate additional TP-4 capability (both outbound and inbound).

APPENDIX C

SAMPLE FORMAT

Fiscal Year_____

ADMINISTRATIVE AIRCRAFT

Quarter Ended_____

DESCRIPTION	1st Quarter		2nd Quarter		3rd Quarter		4th Quarter		Year to Date	
	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual
1. Flying Hour Program										
2. Productive Flying hours										
3. Number of Requests	XX		XX		XX		XX		XX	
4. Percent Requests Satisfied										
5. Number of Sorties Flown	XX		XX		XX		XX		XX	
6. Passengers Moved										
7. Passengers Per Sortie										
8. Number of Aircraft in Program										
9. Program Cost (Direct funds only)										
10. Number of Administration Center Personnel										
11. Cost of Administration Center										

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Each of the three transportation operating agencies (TOAs)--the Military Airlift Command (MAC), the Military Sealift Command (MSC), and the Military Traffic Management Command (MTMC)--operates under the industrial fund concept. There has been increasing congressional concern that the TOA industrial funds are no longer effective management techniques. The Assistant Secretary of Defense (Installations and Logistics), ASD(I&L), therefore requested the Logistics Management Institute to review the operating practices of the TOAs. This study reviews

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This review

The review of the TOA operating practices revealed that (1) variations in TOA operating practices are caused by mission differences and management decisions; (2) the industrial funds are still effective management techniques; (3) both the MAC industrial fund and DoD transportation, in general, can be strengthened by improving the TP-4 program; (4) restructuring the MAC tariff approach so that each channel is self-sustaining may be counter-productive; and (5) the T-39 administrative aircraft program of the Air Force appears to be effective. Recommendations for ~~ASD(I&L)~~ action on many of the above findings are included in the report.

(Transportation priority)

by the Assistant Secretary of Defense (Installations and Logistics)

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