REPORT TO THE CONGRESS

Economic Advantages Of Using American-Made Trucks Abroad To Transport Military Cargo B-163869

Department of Defense

BY THE COMPTROLLER GENERAL OF THE UNITED STATES

FEB. 4,1971

COMPTROLLER GENERAL OF THE UNITED STATES
WASHINGTON, D.C. 20548

B-163869

To the President of the Senate and the
Speaker of the House of Representatives

This is our report on the economic advantages of using American-made trucks abroad to transport military cargo. Our review was made pursuant to the Budget and Accounting Act, 1921 (31 U.S.C. 53), and the Accounting and Auditing Act of 1950 (31 U.S.C. 67).

Copies of this report are being sent to the Director, Office of Management and Budget; the Secretary of State; the Secretary of Defense; the Secretaries of the Army, Navy, and Air Force; and the Administrator of General Services.

Comptroller General
of the United States

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ABBREVIATIONS

ASPR	Armed Serivces Procurement Regulation
DOD	Department of Defense
GAO	General Accounting Office

COMPTROLLER GENERAL'S REPORT TO THE CONGRESS

ECONOMIC ADVANTAGES OF USING AMERICAN-MADE TRUCKS ABROAD TO TRANSPORT MILITARY CARGO
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D I G E S T

WHY THE REVIEW WAS MADE

On inspection trips of various military installations abroad, a U.S. Representative observed foreign-made motor vehicles being used by American forces. He believed it essential that Federal spending not aggravate the United States balance-of-payments situation needlessly and asked the General Accounting Office (GAO) to study the Department of Defense's practice of using foreign-made vehicles abroad.

This report is a result of that request. It is a sequel to GAO's report issued in February 1970 which dealt with the leasing of foreign-made buses overseas.

FINDINGS AND CONCLUSIONS

Total use of foreign commercial carriers (both truck and rail) is not known. The magnitude of these services, however, was indicated by data developed by GAO, which showed costs of at least $31 million during fiscal year 1969 in three countries--Thailand, Japan, and Germany.

Comparative cost studies by GAO show that substantial savings and balance-of-payments advantages can be realized at some overseas locations by using more American-made trucks in place of foreign vehicles being used by commercial carriers under contract with the military. Increased use of American trucks could be achieved in a variety of ways--increasing the military's own transportation capability, furnishing American trucks to contractors, or requiring contractors to use American trucks.

Study of contract services costing $10.7 million revealed that expanding the military's capability could annually produce cost savings of $1.8 million and reduce dollar payments abroad by $6.4 million. (See app. I, p. 31.)

GAO's cost analyses were made with the assistance of knowledgeable military officials, and the method used was conservative and tended to understate the potential savings and balance-of-payments benefits. These cost analyses included liberal margins added to estimated costs to provide for unforeseen contingencies. It is reasonable to conclude that savings would be much greater if the Department makes similar studies across-the-board using more stringent cost estimates.

Few comparative cost studies have been made by the armed services, however, and the sound operating and maintenance data needed generally are not available. (See pp. 15 and 16.)

RECOMMENDATIONS OR SUGGESTIONS

The Secretary of Defense should require:

--The military services to develop better local operating and maintenance cost data to serve as a basis for evaluating comparative costs.

--Amendments to the procurement regulations requiring consideration of economic advantages which might be realized through the use of American-made vehicles where the size of the activity justifies procurement of such vehicles.

--The services to make current cost studies, using the factual data developed, and to periodically update the studies.

GAO is also recommending steps designed to increase the usage of American trucks abroad. These steps provide that:

--Budgetary requests be prepared for submission to the Congress for American-made trucks to replace the use of foreign trucks where economic advantages can be realized.

--The additional trucks be distributed first to locations where potential cost and balance-of-payments advantages are greatest.

--Studies be made of the effectiveness of current operations and of types and sizes of American equipment most needed abroad.

--Consideration be given to including in contracts a preference for American trucks and to contracting with American firms for transportation services at foreign locations.

AGENCY ACTIONS AND UNRESOLVED ISSUES

Department of Defense officials said that the services agreed with most of the these findings and conclusions and told of steps it was taking along the lines proposed. (See p. 26 and app. III.)

MATTERS FOR CONSIDERATION BY THE CONGRESS

In view of continuing weakness in the United States' balance of trade and balance of payments, this report is timely, important, and of interest to the Congress. GAO's recommendations are consistent with the 1968 legislation designed to increase the militarys' use of American-made buses abroad where this is economically and militarily feasible.

CHAPTER 1

INTRODUCTION

The General Accounting Office has reviewed the contractual arrangements of the Department of Defense (DOD) for transporting cargo and petroleum products in foreign countries. We found that foreign trucks and associated equipment were used extensively by contractors in their operations.

Our purpose was to determine if cost and balance-of-payments benefits could be realized at some overseas locations through greater use of American trucks. We did not attempt to evaluate the management or the efficiency of these transportation services.

This report is a sequel to another, issued in February 1970,[1] which concluded that significant cost and balance-of-payments advantages could be realized by using military-owned American-made buses in lieu of leasing foreign buses at some overseas locations.

The need for Government agencies to take all reasonable steps to reduce dollar expenditures abroad is underscored by mounting concern over recent sharp reductions in the traditional U.S. balance-of-trade position, which threaten to undermine the Government's efforts to bring the nation's balance-of-payments position into sustainable equilibrium.

DOD, because of its substantial overseas expenses, plays an important role in seeking improvements in the U.S. balance-of-payments position through a variety of special measures.

One measure requires the military services to buy military supplies and equipment of U.S. origin for use

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[1] "Cost And Balance-Of-Payments Advantages Of Replacing Foreign-Made Buses With American-Made Buses Abroad," (B-163869).

abroad,[1] unless they can be bought with excess foreign currencies owned by the United States or unless the delivered cost of U.S. products is more than 50 percent above that of foreign products.[2]

Our study focused on the managerial process which the military services follow in arriving at a determination to contract for transportation services or to purchase the necessary transport equipment to perform their own transportation needs. In this connection, we noted that section 404 of Public Law 90-500, September 20, 1968, prohibited the use of any appropriated funds for the purchase, lease, rental, or other acquisition of multi-passenger motor vehicles (buses) other than those manufactured in the United States.[3] This law, incorporated into the Armed Services Procurement Regulation (ASPR), focused attention on the need for the military to evaluate the economic advantages that might be realized if its bus transport needs could be performed with U.S.-manufactured buses.

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[1]This policy of favoring products of U.S. origin is based on an administrative determination rather than law. The Congress, in enacting the Buy American Act (41 U.S.C. 10 a-d) made it a general policy that U.S. goods are to be given preference in government procurement; however, the act is inapplicable if the supplies in question are intended for use outside the United States. DOD regulations and directives, which are based on an Executive Order, therefore have broadened the policy by placing emphasis on the use of U.S. supplies and services regardless of where they are to be used.

[2]When approved by the Secretary of Defense or his designee, the maximum of 50 percent can be exceeded.

[3]Unless the procurement action is uneconomical or one which would adversely affect the national interest of the United States.

The ASPR on general transportation services, on the other hand, is not as explicit; and procurement of foreign services is permitted providing they do not duplicate or replace an existing organic service capability. The lack of a requirement for making comparative cost evaluations may explain why there is such a paucity of reliable data on cargo transport cost and balance-of-payments studies available to DOD and why cost studies for trucking services made by the military are so infrequent.

Our cost comparisons were based on the best available information at each location studied, and our calculations were made with the assistance and advice of local military officials experienced in operating and maintaining vehicles. We then discussed our cost analyses with theater headquarters officials and with military officials in Washington and made appropriate cost adjustments on the basis of their technical expertise.

We wish to emphasize that, in order to clearly demonstrate any cost and balance-of-payments advantage, we adopted a conservative approach in calculating costs and potential savings. On the basis of existing transport practices, we allowed for a larger vehicle float and a higher ratio of truck tractors to trailers than appear to be operationally necessary and calculated vehicle needs on the basis of individual routes rather than on the basis of overall needs for geographical areas or networks. On top of these conservative estimates, we applied a contingency cost factor amounting to 10 percent of the costs.

We expect that any cost study undertaken by DOD would be based on alternative economical ways of providing trucking service and that studies using more stringent cost estimates would reveal even greater potential cost savings to the Government than the $1.8 million annual savings indicated by our sample study covering about $10.7 million of contracted costs. Studies should consider the types of trucks and optional equipment needed, differences in mission and local operating conditions, and changes in foreign and domestic price levels which alter the results of these comparisons from location to location and from time to time.

The scope of our review is shown on page 28.

The principal officials of the Department of Defense and the Department of the Army--the service responsible for ground transportation for all services--having responsibilities for the administration of the matters discussed in this report are listed in appendix IV.

CHAPTER 2

PROS AND CONS OF USING AMERICAN-MADE TRUCKS ABROAD TO TRANSPORT MILITARY CARGO

The replacement of foreign vehicles (used by commercial carriers) with American trucks for movement of military materiel and supplies overseas has obvious advantages, as well as drawbacks, to the United States.

Among the important factors to be considered in judging whether it would be better for the military to contract for transportation services or to purchase and operate American-made trucks are the relative costs and balance-of-payments effects of these options. Still another factor to be weighed is the military desirability of having a greater in-house capability to transport supplies and equipment under emergency conditions.

We have listed below the principal arguments for and against increased use of U.S. military owned and operated transportation capability as opposed to contracting for these services. We have made no attempt to rank these arguments in order of priority or importance.

Arguments for

1. Budgetary savings will accrue where analysis indicates that transport services can be performed more economically by increasing the existing in-house military transport capability.

2. Balance-of-payments benefits will accrue to the extent that U.S. military owned and operated vehicles can be used in place of contract cargo movement service using foreign-made equipment.

3. A greater military mission capability would exist to meet normal and emergency transportation needs.

4. Future potential sales of American trucks might be enhanced by increasing the exposure of foreign nationals to American vehicles.

5. Increased usage of American trucks permits employment of American workers, increases the value of goods produced and sold domestically, and increases tax revenues at Federal, State, and local levels of the Government.

Arguments against

1. An increase in organic transport capability will require additional operating and administrative personnel and will increase the management burden.

2. There may be possible additional problems of legality and liability, licensing requirements, road and traffic conditions, and off-base security.

3. There are uncertainties as to the permanency and level of the U.S. presence at military installations abroad. Any subsequent large reduction of cargo movement needs could result in the inability to recover a significant portion of equipment costs unless vehicles could be redistributed or sold.

4. Substantial initial investment outlays would be required to buy American-made transport equipment.

5. Dollar payments for foreign-made vehicles and spare parts increase dollar receipts of foreign nations and make it possible for these nations to import more goods from the United States and other countries which, in turn, can respend some part of their dollar receipts in the United States.

A number of the points outlined above are discussed in greater detail in the following chapters of this report.

CHAPTER 3

COST AND BALANCE-OF-PAYMENTS BENEFITS FROM INCREASING ORGANIC TRANSPORT CAPABILITY

INVENTORY AND COST DATA

The U.S. Army Transportation Corps has the overall responsibility for overland movement of military cargo of a recurring nature in the overseas area. Movement of incidental materiel within and between military bases is generally handled by the originating service.

The inventory of trucks, truck tractors, and trailers owned by the armed forces, although substantial, is inadequate to meet all cargo transport needs of the services. Our review of overseas cargo movement in certain countries indicates that a substantial portion of overseas inland cargo movement is handled by commercial carriers who generally provide their own equipment and drivers.

In fiscal year 1969, the total number of commercial-design (as opposed to military-design) trucks, truck tractors and trailers of the types used in our study and owned by the Army was nearly 18,000 units--13,200 trucks and truck tractors and 4,700 trailers. Of the total, 11,600 were in the continental United States, 2,300 in the Pacific area, 3,200 in Europe, and 800 elsewhere.

During fiscal year 1969, about 1,250 new trucks and truck tractors and nearly 550 trailers were purchased by the Army, primarily for replacement needs. Of the total procurement, 1,300 units were for use in the continental United States.

Our cargo movement study, based on the best available data, was centered in three countries where funds totaling about $31 million were earmarked for commercial hauling services. The countries, types of service contracted for, and estimated costs are shown below.

Country	Type of service contracted for	Estimated dollar costs (note a) (millions)	
Thailand	General trucking	$14.9	
	Bulk petroleum by truck	7.9	$22.8
Japan	General trucking	2.1	
	Refrigerated trucking	.3	
	Bulk petroleum by truck	.8	
	Bulk petroleum by rail	1.8	5.0
Germany	General trucking	.6	
	Container trucking	1.4	
	Rail cargo	1.2	3.2
Total			$31.0

[a]These totals represent those amounts that GAO was able to develop for its study and do not reflect all commercial transport costs in each country.

Data on costs and the volume of military cargo moved by commercial rail and truck carriers in overseas areas were not readily available from military records; therefore, these totals may be understated. On the basis of our study, however, it is evident that a considerable amount of military cargo is moved by commercial carriers.

RESULTS OF GAO COST ANALYSIS

We made comparative cost evaluations of about one-third of the transportation costs that we identified as having been incurred for military cargo moved commercially in Thailand, Japan, and Germany during fiscal year 1969. Our review, based primarily on economic considerations, revealed that significant annual budgetary cost advantages and substantial reductions in dollar expenditures could be realized at some overseas locations if American-made equipment were purchased and operated by the military, rather than using commercial transport services performed with foreign-made equipment.

Although we recognize the practical difficulties of estimating overall financial advantages that could be realized by substituting American-made trucks for foreign-made transport equipment, there can be little doubt that they would be substantial. Of the $31 million in identifiable commercial transport costs incurred by the military during fiscal year 1969 in Thailand, Japan, and Germany, GAO developed comparative cost studies covering $10.7 million. Our test group revealed that net potential cost savings of $1.8 million and reductions of $6.4 million in dollar payments abroad were realizable.

Examples of economic advantages that could be realized by using American trucks are discussed below. Details and summaries of our calculations are shown in appendixes I and II.

Thailand

Our cost analysis covered cargo shipments from the port of Sattahip to various locations within Thailand in fiscal year 1969. Examples of economic advantages follow.

a. About 18,600 short tons were shipped to Udorn (430 miles away) for $470,057. We calculate that this tonnage could have been moved by the military at a cost savings of $101,200 and a reduction in dollar payments abroad of $333,100. A 20-percent rate increase also was imposed on this route under a new contract.

b. We calculate that a $119,800 savings and a $690,500 reduction in dollar payments abroad would have been possible if the 31,300 short tons moved commercially to Nakhon Phanom had been transported by the military. The rate for this route also was increased under a new contract.

Japan

Our study indicated that petroleum products shipped by commercial trucks and rail at a cost of about $2.5 million in fiscal year 1969 could have been transported by the military for cost savings of $429,800 and reduction in dollar expenditures abroad of $1.75 million yearly.

Germany

1. About 20 to 30 percent of the cold stores that were moved by highway from Bremerhaven to Kaiserslautern were handled by a U.S. transportation unit with 32 tractors and 20 refrigerated vans of 7-1/2-ton capability. Due to a more efficient allocation of available equipment, we calculated cost and balance-of-payments savings of $8,600 and $105,000, respectively, if organic capability were further increased.

Our calculations were based on using 20-ton refrigerated vans and a one-to-one tractor-to-trailer ratio, whereas a case might be made for two trailers to each tractor--a ratio which would provide for greater savings. Although military officials in Europe were not aware of the availability of 20-ton vans, we found that this size was procured by the military for use in the United States in 1969.

2. American-made trucks could be used in lieu of commercial rail shipments between Bremerhaven and Kaiserslautern at cost savings of $156,800 and a yearly reduction in dollar expenditures abroad of $386,200.

3. In contrast to other routes in Germany that we evaluated, we found that it would cost the military so much more to transport containers that the balance-of-payments advantages which would be realized would not justify the changeover. For example, it would cost the military an additional $576,800 to replace commercial shipments as compared with an estimated $491,500 reduction in dollar payments abroad.

This case shows that it would be unwise for the military to generalize about potential savings on a countrywide basis, since economic operations may exist side-by-side with uneconomic operations. By making studies of individual routes and modes of shipment, the military would be in a position to place American equipment on the routes where the greatest economic advantages can be realized.

CHAPTER 4

NEED FOR THOROUGH ECONOMIC EVALUATIONS

Cost analyses made by GAO and discussed in the preceding chapter were necessitated by the general unavailability of military cost studies.

Alternatives to using foreign vehicles, such as augmentation of American organic transport capabilities, provision of American-made equipment to foreign contractors, contractual requirements to use American equipment, or redistribution of existing American equipment to obtain maximum realizable cost and balance-of-payments advantages, usually were not evaluated by the military services.

A review of ASPR 6.805.2, "Procurement Limitations," dated January 1, 1969, perhaps partially explains the relative absence of cost studies. Part (viii) (A) allows procurement of certain foreign end products and services for use outside the United States "providing they do not duplicate or replace an existing organic service capability." In addition to transportation services, some other procurements covered under this provision include packing and crating services, laundry and dry cleaning services, and handling and storage requirements.

In the absence of more precise guidelines, local transportation officials are not required to evaluate potential economic advantages which might be realized through the use of American-made vehicles where the size of the activity justifies procurement of such vehicles.

Another problem that the military services have in making studies is caused by the general unavailability of data on operations and maintenance costs at local command levels.

The following subsections describe the few military cost studies that had been made and compares the conclusions reached by the military to our calculations of economic advantages that might be realized if better studies were made and if changes implemented were favorable to the United States.

Thailand

Armed forces officials informed us that they had not made cost studies to evaluate the economic feasibility of using U.S. trucks in Thailand.

Operations and maintenance cost data and data on cargo movements and per-mile costs were not maintained for military transport operations; this made it difficult to calculate comparative costs and hampered evaluations of contract rates for commercial hauling.

Also, these officials believed that a balance-of-payments determination was not required because the procurement was exempted by Army regulations which permit procurements of foreign transportation services outside the United States provided the services do not duplicate or replace an existing organic service capability.

We understand that, in early 1968, an American firm had conducted a study to determine if it could provide a trucking service at a profit, but that the firm had lost interest because of the difficulty of developing sound cost information.

In addition to the above-mentioned private industry study, we learned that, in early 1968, a transportation study concerning in-transit rates from Thailand to Laos was performed by a U.S. Embassy consultant. The resulting report, however, was thought by military officials to be inconclusive.

As shown in appendix I, GAO's cost calculations, using the best data available, indicate that significant economic advantages could be realized by increasing the military's organic capability. For transportation charges tested (amounting to $3,342,500) we calculated cost savings of $656,000 (after allowing liberal margins for unforeseen costs) and reductions in dollar payments abroad of $2,362,200.

Still another way to achieve balance-of-payments advantages would be for the United States to buy and provide contractors with American trucks, or to require the

contractors to use American trucks. One local Thai commercial contractor and his subcontractors was using about 950 trucks and truck tractors, of Japanese, German, and other foreign manufacture, to haul U.S. military cargo in Thailand.

U.S. officials agreed in principle that any firm operating under a contract to haul U.S. military supplies should use American equipment, however, they had not explored the desirability or feasibility of doing so.

GAO visited the largest local commercial firm carrying military cargo and explored the feasibility of its buying or using Government-furnished American trucks. A high company official expressed interest in using Government-furnished equipment under military transportation contracts. We further discussed this proposal with appropriate Embassy officials who agreed to pursue this matter.

Subsequently, we were advised that the contractor had agreed to purchase some U.S.-manufactured equipment (material-handling) to cover replacement and expansion requirements based on the expected furture level of U.S. Government activities.

Another indication of contractor receptivity was that one of the larger subcontractors volunteered to explore with appropriate U.S. manufacturers the purchase of transport and material-handling equipment during a forthcoming visit to the United States.

Germany

Comparative cost studies of military cargo movements were not available within the European Command at the beginning of our review.

With the cooperation of transportation officials we obtained data on contracting for line haul services from the German and Benelux ports and from Kaiserslautern to local sites. We compared contractual costs with estimated costs of using American-made equipment operated by local national drivers.

As shown in appendix I, GAO's cost calculations, using the best data available, indicate that significant economic advantages could be realized by increasing the military's organic capability. For transportation charges tested (amounting to $3,406,700), we calculated net cost savings of $620,600 (after allowing liberal margins for unforeseen costs) and reductions in dollar payments abroad of $1,499,000.

We noted that, over the last few years, military officials in the European Command had experienced difficulties in determining the actual cost of certain transportation expenses and had experienced difficulties in deciding what costs to include in arriving at sound cost comparisons. In late 1967 the command revised its standard method for costing military line haul operation for traffic management studies.

In February 1969, we learned that cost-per-mile factors developed from military cost and performance reports were unreliable. Army officials stated that they had problems with the input of these reports and that the reports were not completely understood by all personnel. They informed us that obvious errors were noted by their internal auditors in past reports and that they were in the process of acquainting their personnel with the report and correcting the errors.

We have since learned that the European Command has made cost comparisons using our preliminary study as a guide.

Japan

The military services in Japan had made more and better cost studies than those made in Thailand or in Germany.

One study, made in 1967, showed that about $1 million a year could be saved by transporting fuel to an air base if rail tank cars were used instead of commercial tank trucks.

Although we do not dispute the savings claimed, we believe that still greater savings are possible through use of military-owned tank trucks of large carrying capacity.

Another study was made by the Army to compare commercial and military transport costs between the port of Yokohama and the U.S. Army Depot at Sagami.

Pertinent cost records for operation of Government-owned trucks between these two points were not readily available. Therefore, cost and performance data over a 3-month period for vehicles maintained at Yokohama were selected as representative for computation of average costs applicable to the vehicles by type--for example, 5-to 10-ton truck tractors and semitrailers--utilized on this run.

The Army study concluded that "the military operation *** is more economical than contractual highway operation." Agency personnel recommended that:

> "a. *** the utilization of Government-owned vehicles should be encouraged to the maximum extent feasible.
>
> "b. The military linehaul rate ***, should be reviewed and up-dated at least annually and be used, in lieu of the reimbursement rates ***, in traffic cost analysis being performed ***.
>
> "c. The cost and performance data for the vehicles utilized ***, which are reported under vehicle groups ***, should be maintained separately."

Transportation officials at Yokohama agreed with the conclusions reached in the study. They stated, however, that limited available equipment precluded their own in-house operation and that they must continue to move their cargo by use of a more costly method--common carrier service. In fact, due to an expected 10-percent manpower reduction, transportation officials contemplated reducing organic military capability and increasing commercial carrier transport with resultant higher costs.

As shown in appendix I, GAO's cost calculations, using the best data available, indicate that significant advantages could be realized by increasing the military's organic capability. For transportation charges tested (amounting to $3,972,000), we calculated cost savings of

$552,500 (after allowing liberal margins for unforeseen costs) and reductions in dollar payments abroad of $2,512,400.

CHAPTER 5

COMMENTS OF LOCAL DOD, OTHER MILITARY AND CONTRACTOR PERSONNEL

Military operating officials agreed generally that there is a need to make thorough comparative cost studies to evaluate economic advantages that might be realized if more American-made vehicles were used in transporting military cargo abroad.

They advised us of certain steps taken to increase the use of American trucks abroad.

--In Europe, certain steps were taken to make better use of existing military equipment. This made it possible to reduce the volume of cargo transported by commercial carriers which were using foreign vehicles.

--In the Far East, we were advised that the military planned to buy 374 pieces of used American-made equipment (trucks, tractors, and trailers) from an American contractor. This equipment was to be redistributed to military units in Vietnam, Okinawa, and Japan. This action was expected to result in contract cost savings of about $836,000.

Military officials advised us of factors they believed were relevant to the question of whether commercial carrier arrangements should be reduced in scope by augmenting the military's organic capability. These included:

--The greater administrative convenience of using contract services. With an increased military fleet, associated burdens of administration would increase, such as licensing requirements, problems of legality and liability, difficulties of operations under adverse road and traffic conditions, and problems of off-base security and labor arrangements.

--Uncertainty as to the permanency and level of U.S. presence at military installations abroad. The level and permanency of military activities are subject to change and any significant reduction in military activities could cause major reductions in transport equipment needs.

--In certain countries, U.S. policy might favor a "low profile" or less conspicuous American presence in spite of economic disadvantages. This consideration seems to merit special attention since Embassy officials in a particular country reiterated this view.

--The relative low priority given to procurement of trucks, as opposed to weapons and ammunition, militate against acquisition of sufficient number of trucks to permit contracting to be reduced to a minimum.

Although we do not minimize the need for giving weight to these factors, we do not believe that they normally would be insuperable obstacles. American-made trucks are operated by or for the military throughout the world and in the same countries where foreign-made trucks are used. Also, local national drivers are used for both arrangements. Therefore, it appears that the military usually has been able to solve local problems associated with owning and operating American-made trucks abroad. Moreover, it seems reasonable to suppose that vehicles could be redistributed if the level of operations were reduced at some locations or in some countries.

Our comments on the funding of acquisition costs of more American vehicles are included in chapter 6.

Factors hindering the purchase of American-made trucks by foreign commercial carriers also were enumerated by military officials. They include uncompetitive U.S. prices, generally higher costs to transport vehicles (resulting in greater initial investment), higher financing costs, and higher customs duties. In view of the uncertainty of time and level of U.S. transport needs and limited availability of capital funds, contractors find it necessary to purchase

foreign-manufactured trucks which may be cheaper initially but not necessarily the most economical over a longer term.

Commercial carriers with whom we discussed the matter were receptive to Government-furnished American-made equipment for use on transportation contracts. They recognized the advantage of reducing their initial investment in equipment and saw a further benefit if they could buy the used American equipment at reduced prices at a later date.

CHAPTER 6

CONCLUSIONS AND RECOMMENDATIONS

Our cost calculations show that significant savings and substantial balance-of-payments advantages can be realized at some overseas locations if the armed services make arrangements which would increase the use of American trucks and trailers in place of foreign vehicles being used by commercial carriers under contract with the military.

In the course of our review, we observed that there is a paucity of reliable cost data maintained by the armed services to serve as a basis for making sound comparative cost studies.

We recommend to the Secretary of Defense that:

1. The military services develop sound local operating and maintenance cost data to serve as a factual basis for evaluating the comparative costs of alternative arrangements for the use of American vehicles as opposed to the use of foreign vehicles.

Cost studies for the identification of potential transport cost and balance-of-payments savings generally were not available at the locations we visited. We believe that the general permissiveness pertaining to foreign contracting for transportation services contained in ASPR is an underlying reason for the lack of studies. These regulations permit contracting for services "providing they do not duplicate or replace an organic service capability."

We recommend to the Secretary of Defense that:

2. Amendments be made to the regulations requiring consideration of economic advantages which might be realized through the use of American-made vehicles where the size of the activity justifies procurement of such vehicles.

3. The services make current cost studies, using the factual cost data developed. These studies should

be periodically updated to ensure that they have continuing validity in the light of current cost and balance-of-payments considerations.

Military officials have advised us that organic capabilities cannot be increased in some cases and that Government-furnished trucks cannot be provided to contractors, because lower priority is accorded the procurement of commercial-type transport vehicles than to the procurement of combat items. Where this is a problem, we recommend to the Secretary of Defense that:

4. In the situations where comparative cost studies show economic advantages to the United States (from a cost and/or balance-of-payments standpoint) the services, in their budgetary requests to the Congress, make appropriate provisions, together with supporting justifications, for procurement of American-made trucks and related equipment.

5. Where there remains a scarcity of American-made trucks to meet operational needs, that first priority in the distribution of trucks be given to those overseas locations where the cost and balance-of-payments advantages are the greatest.

During our review, we noted instances where the military found it possible to redistribute military equipment and thus achieve better utilization. Also, we observed that economic advantages could be realized by using larger capacity vehicles (20-ton trailers) and by using equipment more efficiently (a better tractor-trailer ratio).[1]

We recommend to the Secretary of Defense that:

6. Military transportation officials make effectiveness reviews of the utilization of their organic equipment as one way of reducing contracting and procurements of new vehicles.

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[1]See page 12.

7. Military transportation officials make studies of the optimum types and sizes of American equipment that could be used to improve their organic operations and prepare cost evaluations and replacement needs in the light of these studies.

In some cases, it may be infeasible to increase U.S. organic capability or to provide American vehicles to contractors. In these cases, the opportunity may exist to increase the utilization of American vehicles by requiring commercial carriers to use American equipment and we recommend to the Secretary of Defense that:

8. Consideration be given to inclusion in contracts of a preference for American-made equipment.

Still another prospect for reducing the use of foreign trucks abroad lies in the possibility of contracting for transport services with American firms using American-made trucks. Although this has not been feasible in the past, because the military services were authorized only short-term contract authority of 1 year, a recent change in the law (Public Law 90-378, July, 1968) provides long-term authority that may make this arrangement more attractive to American firms. We therefore recommend to the Secretary of Defense that:

9. Consideration be given to contracting with American firms for transportation services at foreign locations.

CHAPTER 7

OFFICIAL DOD POSITION

By letter dated September 17, 1970 (app. III), the Deputy Assistant Secretary of Defense (Installations and Logistics) advised us that the military departments were in general agreement with most of the findings in this report.

He listed steps that were being taken and that were planned to be taken along the lines of the recommendations outlined in chapter 6 of this report.

The Secretary added that the military departments' difficulty in obtaining sufficiently good data caused some doubt about the soundness of GAO's findings and that there was some opinion that the study was not fully consistent with the provisions of DOD Instruction 7041.3, "Economic Analysis of Proposed DOD Investments," which set forth requirements and procedures for comparative cost analysis. He pointed out that this raised the possibility that the results of the cost study might have been different if GAO had used the DOD guidelines. The Secretary stated, however, that the military departments were not able to support their reservations by providing any economic analyses of their own.

DOD has requested the military departments to undertake detailed analyses of the various cost factors and plans to advise GAO more fully of the corrective actions taken in response to this report.

GAO EVALUATION OF OFFICIAL DOD POSITION

Since the U.S. Army Transportation Corps has the overall responsibility for overland movement of military cargo of a recurring nature in overseas areas, we based our computations on existing U.S. Army operation cost data. We conferred with transportation officers of the other military departments to ascertain the general validity of the various cost elements and, in consideration of their views, increased certain cost items, thus allowing liberal margins for operating and management costs as well as for other unforeseen costs. For example, overhead costs in our

analyses were increased from an actual 10.7-percent rate developed from Army cost reports to a 40-percent rate for direct operations and maintenance costs. (See note h, app. I, p. 43.) In addition, we applied a contingency allowance of 10 percent of total estimated costs to own and operate American-made equipment. This was done to provide a margin for unexpected costs and other unknown factors. (See note j, app. I, p. 43.)

After receiving DOD's comments we recalculated the potential savings. Our report now uses annual cost amounts which take into consideration interest at the market yield rate of $.0673 on marketable long-term U.S. Treasury bonds at the end of August 1970. In our analysis we used the annual equivalent cost method because the vehicles have varying expected lives, and this method makes it unnecessary to find a common-denominator life for all vehicles. In this instance the conclusions based on the method used are consistent with the conclusions that would be drawn using present value method, which is the method explicitly referred to in DOD Instruction 7041.3.

In DOD Instruction 7041.3 the prescribed interest rate is 10 percent. We have chosen in our analysis to use the interest rate that is currently prescribed in the Office of Management and Budget Circular A76, that is, the current U.S. Treasury long-term borrowing rate.

CHAPTER 8

SCOPE OF REVIEW

This review was directed primarily toward determining whether cost and balance-of-payments advantages could be realized by the U.S. Government if U.S.-manufactured trucks were used to a greater extent in overseas areas.

The review was conducted at DOD in Washington, D.C., at the European and Pacific military headquarters, and at various armed forces installations throughout Europe and Asia. It included an examination of available records and discussions with military officials.

APPENDIXES

POTENTIAL COST SAVINGS IN TRANSPORT OF MILITARY CARGO ABROAD BY REPLACING COMMERCIAL CARRIER SERVICES WITH ORGANIC MILITARY TRANSPORT

SUMMARY OF SELECTED ROUTES IN JAPAN, THAILAND, AND GERMANY

FISCAL YEAR 1969

	Summary of selected routes by country			
	Total	Japan	Thailand	Germany
A ESTIMATED ANNUAL COST OF MOVING CARGO BY COMMERCIAL CARRIER SERVICES (note a)	$10,721,167	$3,971,994	$3,342,517	$3,406,656
A1 Less services where furnishing American-made trucks would not be economical	1,580,758	265,558	-	1,315,200
Net estimated annual cost of moving	$ 9,140,409	$3,706,436	$3,342,517	$2,091,456
B DEDUCT--ESTIMATED ANNUAL COSTS FOR THE GOVERNMENT TO OWN AND OPERATE AMERICAN-MADE TRUCKS (note b):				
B1 Acquisition costs (note c)	$ 1,445,602	$ 677,255	$ 494,780	$ 273,567
B2 Transportation costs (inland, port handling, and ocean freight)	279,956	146,466	100,767	32,723
B3 Shelf support parts (note d)	163,286	79,605	54,863	28,818
B4 Maintenance float (note e)	163,730	79,924	54,980	28,826
B5 Local national driver costs (note f)	1,451,300	744,300	396,800	310,200
B6 Operation and maintenance costs (note g)	2,244,833	814,023	957,205	473,605
B7 Overhead costs (note h)	897,933	325,609	382,882	189,442
Total deductions (B1 through B7)	$ 6,646,640	$2,367,182	$2,442,277	$1,337,181
C DIFFERENCE IN ESTIMATED COSTS WITHOUT ALLOWANCE FOR 10 PERCENT CONTINGENCY FACTOR (A minus B) (note j):				
C1 Where furnishing American-made trucks would be economical	$ 2,493,769	$ 839,254	$ 900,240	$ 754,275
C2 Where furnishing American-made trucks would not be economical	$ -506,646	$ -101,808	$ -	$ -404,838
D DIFFERENCE IN ESTIMATED COSTS AFTER ALLOWING A 10 PERCENT CONTINGENCY FACTOR (note j):				
D1 Where furnishing American-made trucks would be economical	$ 1,829,105	$ 552,536	$ 656,012	$ 620,557
D2 Where furnishing American-made trucks would not be economical	$ -715,387	$ -138,545	$ -	$ -576,842
E ESTIMATED ANNUAL REDUCTION IN DOLLAR OUTFLOW IF AMERICAN-MADE TRUCKS WERE TO REPLACE FOREIGN COMMERCIAL CARRIER SERVICES--FOR COMPARISON PURPOSES ONLY (see app. II)	$ 6,373,230	$2,512,435	$2,362,246	$1,498,549

The notes on pages 42 to 44 are an integral part of this statement.

POTENTIAL COST SAVINGS IN TRANSPORT OF MILITARY

CARGO ABROAD BY REPLACING COMMERCIAL CARRIER

SERVICES WITH ORGANIC MILITARY TRANSPORT

SUMMARY AND RESULTS OF SELECTED ROUTES IN JAPAN

FISCAL YEAR 1969

		Summary of selected routes
A	ESTIMATED ANNUAL COST OF MOVING CARGO BY COMMERCIAL CARRIER SERVICES (note a)	$3,971,994
A1	Less services where furnishing American-made trucks would not be economical	265,558
	Total estimated annual cost of moving	$3,706,436
B	DEDUCT--ESTIMATED ANNUAL COSTS FOR THE GOVERNMENT TO OWN AND OPERATE AMERICAN-MADE TRUCKS (note b):	
B1	Acquisition costs including interest (see app. I, pp. 38 to 41) (note c)	$ 677,255
B2	Transportation costs (inland, port handling, and ocean freight)	146,466
B3	Shelf support parts (note d)	79,605
B4	Maintenance float (note e)	79,924
B5	Local national driver costs (note f)	744,300
B6	Operation and maintenance costs (note g)	814,023
B7	Overhead costs (note h)	325,609
	Total deductions (B1 through B7)	$2,867,182
C	DIFFERENCE IN ESTIMATED COSTS WITHOUT ALLOWANCE FOR 10% CONTINGENCY FACTOR (A minus B) (note j):	
C1	Where furnishing American-made trucks would be economical	$ 839,254
C2	Where furnishing American-made trucks would not be economical	$ -101,808
D	DIFFERENCE IN ESTIMATED COSTS AFTER ALLOWING A 10% CONTINGENCY FACTOR (note j):	
D1	Where furnishing American-made trucks would be economical	$ 552,536
D2	Where furnishing American-made trucks would not be economical	$ -138,545
E	ESTIMATED ANNUAL REDUCTION IN DOLLAR OUTFLOW IF AMERICAN-MADE TRUCKS WERE TO REPLACE FOREIGN COMMERCIAL CARRIER SERVICES--FOR COMPARISON PURPOSES ONLY (see app. II, pp. 46 and 47)	$2,512,435

[1]Not included in summary of selected routes.

The notes on pages 42 to 44 are an integral part of this statement.

North Pier to various sites			
Truck			Rail
Refrigerated cargo	General cargo	Petroleum, oil, and lubricants	
$265,558	$1,251,994	$664,411	$1,790,031
265,558	-	-	-
$ -	$1,251,994	$664,411	$1,790,031
$ 80,572	$ 170,039	$146,591	$ 360,625
23,024	58,868	27,789	59,809
11,038	22,743	17,544	39,318
12,142	23,612	19,298	37,014
83,300	286,800	144,000	313,500
112,350	331,821	135,450	346,752
44,940	132,728	54,180	138,701
$367,366(1)	$1,026,611	$544,852	$1,295,719
$ -	$ 225,383	$119,559	$ 494,312
-$101,808	$ -	$ -	$ -
$ -	$ 122,722	$ 65,074	$ 364,740
-$138,545	$ -	$ -	$ -
$118,902(1)	$ 762,558	$453,441	$1,296,436

POTENTIAL COST SAVINGS IN TRANSPORT OF MILITARY CARGO ABROAD BY REPLACING COMMERCIAL CARRIER SERVICES WITH ORGANIC MILITARY TRANSPORT

SUMMARY AND RESULTS OF SELECTED ROUTES IN THAILAND

FISCAL YEAR 1969

		Summary of selected routes
A	ESTIMATED ANNUAL COST OF MOVING CARGO BY COMMERCIAL CARRIER SERVICES (note a)	$3,342,517
B	DEDUCT--ESTIMATED ANNUAL COSTS FOR THE GOVERNMENT TO OWN AND OPERATE AMERICAN-MADE TRUCKS (note b):	
B1	Acquisition costs including interest (see app. I, pp. 38 to 41) (note c)	$ 494,780
B2	Transportation costs (inland, port handling, and ocean freight)	100,767
B3	Shelf support parts (note d)	54,863
B4	Maintenance float (note e)	54,980
B5	Local national driver costs (note f)	396,800
B6	Operation and maintenance costs (note g)	957,205
B7	Overhead costs (note h)	382,882
B8	Total deductions (B1 through B7)	$2,442,277
C	DIFFERENCE IN ESTIMATED COSTS WITHOUT ALLOWANCE FOR 10 PERCENT CONTINGENCY FACTOR (A minus B) (note j):	
C1	Where furnishing American-made trucks would be economical	$ 900,240
C2	Where furnishing American-made trucks would not be economical	-
D	DIFFERENCE IN ESTIMATED COSTS AFTER ALLOWING A 10 PERCENT CONTINGENCY FACTOR (note j):	
D1	Where furnishing American-made trucks would be economical	$ 656,012
D2	Where furnishing American-made trucks would not be economical	-
E	ESTIMATED ANNUAL REDUCTION IN DOLLAR OUTFLOW IF AMERICAN-MADE TRUCKS WERE TO REPLACE FOREIGN COMMERCIAL CARRIER SERVICES--FOR COMPARISON PURPOSES ONLY (see app. II, pp. 48 and 49)	$2,362,246

The notes on pages 42 to 44 are an integral part of this statement.

General cargo (trucks) Sattahip Port Complex to						
Ubon	Udorn	Nakhon Phanom	Khorat	Takhli	Uta Pao	Chacheongsao
$573,113	$470,057	$1,026,052	$394,737	$419,870	$254,385	$204,303
$102,970	$ 70,222	$ 162,036	$ 49,423	$ 55,175	$ 25,334	$ 29,620
20,452	13,801	32,520	10,222	11,540	5,760	6,472
11,506	7,370	18,199	5,481	6,362	2,735	3,210
11,712	7,298	18,506	5,456	6,425	2,530	3,053
86,800	60,450	136,400	35,650	40,300	17,050	20,150
206,388	125,832	325,861	94,500	112,560	41,160	50,904
82,555	50,333	130,344	37,800	45,024	16,464	20,362
$522,383	$335,306	$ 823,866	$238,532	$277,386	$111,033	$133,771
$ 50,730	$134,751	$ 202,186	$156,205	$142,484	$143,352	$ 70,532
-	-	-	-	-	-	-
$ -1,508	$101,220	$ 119,799	$132,352	$114,745	$132,249	$ 57,155
-	-	-	-	-	-	-
$360,155	$333,093	$ 690,478	$301,550	$310,850	$212,667	$153,453

POTENTIAL COST SAVINGS IN TRANSPORT OF MILITARY CARGO ABROAD BY REPLACING COMMERCIAL CARRIER SERVICES WITH ORGANIC MILITARY TRANSPORT

SUMMARY AND RESULTS OF SELECTED ROUTES IN GERMANY

FISCAL YEAR 1969

	Summary of selected routes	Refrigerated cargo Truck: Bremerhaven to Kaiserslautern	Refrigerated cargo Truck: Rotterdam to Kaiserslautern	Refrigerated cargo Truck: Local service from Kaiserslautern
A ESTIMATED ANNUAL COST OF MOVING CARGO BY COMMERCIAL CARRIER SERVICES (note a)	$3,406,656	$168,000[k]	$367,200[l]	$226,800[m]
A1 Less services where furnishing American-made trucks would not be economical	1,315,200	-	-	-
Total estimated annual cost of moving	$2,091,456	$168,000	$367,200	$226,800
B DEDUCT--ESTIMATED ANNUAL COSTS FOR THE GOVERNMENT TO OWN AND OPERATE AMERICAN-MADE TRUCKS (note b):				
B1 Acquisition costs including interest (see app. I, pp. 38 to 41)(note c)	$ 273,567	$ 30,857	$ 34,714	$ 16,267
B2 Transportation costs (inland, port handling, and ocean freight)	32,723	3,837	4,316	2,049
B3 Shelf support parts (note d)	28,818	3,234	3,639	1,638
B4 Maintenance float (note e)	28,826	3,201	3,602	1,579
B5 Local national driver costs (note f)	310,200	33,000	36,300	19,800
B6 Operation and maintenance costs (note g)	473,605	50,560	56,880	23,700
B7 Overhead costs (note h)	189,442	20,224	22,752	9,480
B8 Total deductions (B1 through B7)	$1,337,181	$144,913	$162,203	$ 74,513
C DIFFERENCE IN ESTIMATED COSTS WITHOUT ALLOWANCE FOR 10 PERCENT CONTINGENCY FACTOR (A minus B) (note j):				
C1 Where furnishing American-made trucks would be economical	$ 754,275	$ 23,087	$204,997	$152,287
C2 Where furnishing American-made trucks would not be economical	$ -404,838	-	-	-
D DIFFERENCE IN ESTIMATED COSTS AFTER ALLOWING A 10 PERCENT CONTINGENCY FACTOR (note j):				
D1 Where furnishing American-made trucks would be economical	$ 620,557	$ 8,596	$188,777	$144,836
D2 Where furnishing American-made trucks would not be economical	$ -576,842	-	-	-
E ESTIMATED ANNUAL REDUCTION IN DOLLAR OUTFLOW IF AMERICAN-MADE TRUCKS WERE TO REPLACE FOREIGN COMMERCIAL CARRIER SERVICES--FOR COMPARISON PURPOSES ONLY (see app. II, pp. 50 and 51)	$1,498,549	$105,053	$297,211	$193,139

[1]Not included in summary of selected routes.

The notes on pages 42 to 44 are an integral part of this statement.

Refrigerated cargo			General cargo			
Truck	Rail		Truck			Rail
Sea container	Brerferhaven		Sea container			
Rotterdam to Kaiserslautern	to local service	to Kaiserslautern	Local service	Brerferhaven to Kaiserslautern	Rotterdam to Kaiserslautern	Local service
$68,400	$126,480	$561,000	$86,100	$735,600	$579,600	$487,476
-	-	-	-	735,600	579,600	-
$68,400	$126,480	$561,000	$86,100	$ -	$ -	$487,476
$ 9,941	$ 19,286	$ 84,856	$ 6,212	$155,744	$122,607	$ 71,434
1,045	2,398	10,549	682	16,371	12,888	7,847
1,150	2,021	8,894	659	18,008	14,177	7,583
1,265	2,001	8,805	670	19,809	15,594	7,703
13,200	23,100	92,400	6,600	234,300	181,500	85,800
23,700	31,600	139,040	11,850	371,300	292,300	136,275
9,480	12,640	55,616	4,740	148,520	116,920	54,510
$59,781	$ 93,046	$400,160	$31,413	$964,052(1)	$755,986(1)	$371,152
$ 8,619	$ 33,434	$160,840	$54,687	-	-	$116,324
-	-	-	-	-$228,452	-$176,386	-
$ 2,641	$ 24,129	$120,823	$51,546	-	-	$ 79,209
-	-	-	-	-$324,857	-$251,985	-
$40,632	$ 84,663	$386,249	$72,333	$273,057(1)	$218,420(1)	$319,269

TYPES OF TRUCKS, TRUCK TRACTORS AND TRAILERS

LIFE EXPECTANCY AND OTHER CRITERIA USED IN

COMPUTING THE ACQUISITION COST OF EQUIPMENT

Country type of cargo and route	Type of vehicle (note a)	Estimated number of operational vehicles (note b)	Estimated acquisition cost per vehicle in 1969
JAPAN:			
General cargo:			
North Pier to Sagami:			
Container movement	Truck tractor, with cab 32,000 GVW, 55,000 GCW, 4x2, gasoline engine driven (note d)	16	$ 7,634
	Semitrailer, low-bed, 15 ton, 4 wheel, tilt deck, fixed goose neck	49	3,187
Conventional movement	Truck tractor, with cab 28,000 GVW, 4x2, gasoline engine driven	4	5,953
	Semitrailer, stake, 12 ton, 2 wheel, 30 foot	13	2,553
North Pier to other sites:			
Container movement	Truck tractor, with cab 32,000 GVW, 55,000 GCW, 4x2, gasoline engine driven	3	7,634
	Semitrailer, low-bed, 15 ton, 4 wheel, tilt deck, fixed goose neck	3	3,187
Conventional movement	Truck, cargo, with cab, 24,000 GVW, 4x2, 6 ton, gasoline engine driven	50	5,309
Conventional movement	Truck tractor, with cab 28,000 GVW, 4x2, gasoline engine driven	10	5,953
	Semitrailer, stake, 12 ton, 2 wheel, 30 foot	10	2,553
Refrigerated cargo:			
North Pier to various sites	Truck, refrigerator van, with cab, 19,000 GVW, 4x2, 470 cubic foot volume, 4-1/2 ton, gasoline engine driven	6	6,826
	Truck, refrigerator van, with cab, 24,000 GVW, 4x2, 500 cubic foot volume, 6-1/2 ton, gasoline engine driven	19	9,033
Petroleum, oil, and lubricant cargo:			
North Pier to various sites:			
Tank truck movements	Truck, tank, with cab, 34,500 GVW, 6x4, fuel servicing, 2,200 gallon, gasoline engine driven	43	13,735
Rail tank movements	Truck tractor, with cab, 39,000 GVW, 60,000 GCW, 6x4, gasoline engine driven	86	9,404
	Semitrailer, tank, with pumps, 6,000 gallon, 4 wheels (tandem axles)	86	13,000
THAILAND:			
General cargo:			
Settahip Port Complex to:			
Ubon	Truck tractor, with cab, 32,000 GVW, 60,000 GCW, 4x2, diesel engine driven	42	10,460
	Semitrailer, stake, 12 ton, 2 wheel, 30 foot	42	2,553
	Semitrailer, low-bed, 20 ton, 4 wheel, 40 foot	7	3,820
Udorn	Truck tractor, with cab, 32,000 GVW, 60,000 GCW, 4x2, diesel engine driven	35	10,460
	Semitrailer, stake, 12 ton, 2 wheel, 30 foot	36	2,553
	Semitrailer, low-bed, 20 ton, 4 wheel, 40 foot	6	3,820
Nakhon Phanom	Truck tractor, with cab, 32,000 GVW, 60,000 GCW, 4x2, diesel engine driven	67	10,460
	Semitrailer, stake, 12 ton, 2 wheel, 30 foot	70	2,553
	Semitrailer, low-bed, 20 ton, 4 wheel, 40 foot	9	3,820
Khorat	Truck tractor, with cab, 32,000 GVW, 60,000 GCW, 4x2, diesel engine driven	20	10,460
	Semitrailer, stake, 12 ton, 2 wheel, 30 foot	27	2,553
	Semitrailer, low-bed, 20 ton, 4 wheel, 40 foot	3	3,820
Takhli	Truck tractor, with cab, 32,000 GVW, 60,000 GCW, 4x2, diesel engine driven	20	10,460
	Semitrailer, stake, 12 ton, 2 wheel, 30 foot	27	2,553
	Semitrailer, low-bed, 20 ton, 4 wheel, 40 foot	3	3,820
Uta Pao	Truck tractor, with cab, 32,000 GVW, 60,000 GCW, 4x2, diesel engine driven	10	10,460
	Semitrailer, stake, 12 ton, 2 wheel, 30 foot	22	2,553
	Semitrailer, low-bed, 20 ton, 4 wheel, 40 foot	3	3,820
Chacheongsao	Truck tractor, with cab, 32,000 GVW, 60,000 GCW, 4x2, diesel engine driven	12	10,460
	Semitrailer, stake, 12 ton, 2 wheel, 30 foot	22	2,553
	Semitrailer, low-bed, 20 ton, 4 wheel, 40 foot	3	3,820

The notes on pages 40 and 41 are an integral part of this statement.

Roundtrip Mileage	Roundtrip Time (daily)	Approximate short tons moved: Daily total	Approximate short tons moved: Per trailer, van, truck, or container	Life expectancy in years (note c)	Total annual acquisition cost including interest
46	3 trips a night (note e)	582.7	-	4.3	$ 28,566.30
-	1 trip a night (note e)	582.7	12	15	15,585.60
46	3 trips a night (note e)	145.7	-	4.3	5,569.01
-	1 trip a night (note e)	145.7	11	15	3,312.38
138	1.5 trips	59.6	-	2.9	7,472.26
-	1 trip (note f)	59.6	12	15	954.22
138	1.5 trips	375.4	5	2.9	86,608.70
138	1.5 trips	160.9	-	2.9	19,422.90
138	1 trip (note f)	160.9	11	15	2,547.99
214	1 trip	24	4	1.6	22,832.60
214	1 trip	103.2	5.5	2.8	57,739.20
50	3 trips	945.3	7.4	4.0	146,591.00
64	3 trips	5,037.0	-	3.1	249,044.00
-	3 trips	5,037.0	19.5	15	111,581.00
1,170	6 days	77.5	-	5.1	89,600.00
-	7 days	65.9	11	15	10,701.60
-	7 days	11.6	15	15	2,668.75
856	5 days	74.3	-	7.0	58,762.00
-	6 days	63.2	11	15	9,172.76
-	6 days	11.1	15	15	2,287.50
1,158	6 days	125.4	-	5.2	140,769.00
-	7 days	106.6	11	15	17,835.90
-	7 days	18.8	15	15	3,431.25
450	2 days	117.7	-	5.3	41,399.30
-	3 days	100.0	11	15	6,879.57
-	3 days	17.7	15	15	1,143.75
536	2 days	116.0	-	4.5	47,151.20
-	3 days	98.6	11	15	6,879.57
-	3 days	17.4	15	15	1,143.75
28	7 trips	838.2	-	6.1	18,584.40
-	3 trips	712.5	11	15	5,605.57
-	3 trips	125.7	15	15	1,143.75
202	1 day	146.0	-	5.9	22,870.60
-	2 days	124.1	11	15	5,605.57
-	2 days	21.9	15	15	1,143.75

TYPES OF TRUCKS, TRUCK TRACTORS AND TRAILERS

LIFE EXPECTANCY AND OTHER CRITERIA USED IN

COMPUTING THE ACQUISITION COST OF EQUIPMENT (continued)

Country type of cargo and route	Type of vehicle (note a)	Estimated number of operational vehicles (note b)	Estimated acquisition cost per vehicle in 1969
GERMANY:			
Refrigerated cargo:			
Truck movements:			
Bremerhaven to Kaiserslautern	Truck tractor, with cab, 32,000 GVW, 60,000 GCW, 4x2, diesel engine driven	8	$10,460
	Semitrailer, refrigerator van, 20 ton, 35 foot	8	7,101
	Refrigerator unit	8	3,000
Rotterdam to Kaiserslautern	Truck tractor, with cab, 32,000 GVW, 60,000 GCW, 4x2, diesel engine driven	9	10,460
	Semitrailer, refrigerator van, 20 ton, 35 foot	9	7,101
	Refrigerator unit	9	3,000
Local service from Kaiserslautern	Truck tractor, with cab, 32,000 GVW, 60,000 GCW, 4x2, diesel engine driven	5	10,460
	Semitrailer, refrigerator van, 20 ton, 35 foot	5	7,101
	Refrigerator unit	5	3,000
Rotterdam to Kaiserslautern:			
Container movement	Truck tractor, with cab, 32,000 GVW, 60,000 GCW, 4x2, diesel engine driven	3	10,460
	Container and chassis (note g) (bogie)	5	-
Rail movements:			
Local service from Bremerhaven	Truck tractor, with cab, 32,000 GVW, 60,000 GCW, 4x2, diesel engine driven	5	10,460
	Semitrailer, refrigerator van, 20 ton, 35 foot	5	7,101
	Refrigerator unit	5	3,000
Bremerhaven to Kaiserslautern	Truck tractor, with cab, 32,000 GVW, 60,000 GCW 4x2, diesel engine driven	22	10,460
	Semitrailer, refrigerator van, 20 ton, 35 foot	22	7,101
	Refrigerator unit	22	3,000
General cargo:			
Truck movements:			
Local service	Truck tractor, with cab, 32,000 GVW, 60,000 GCW, 4x2, diesel engine driven	2	10,460
	Semitrailer, stake, 12 ton, 2 wheel, 30 foot	4	2,553
Bremerhaven to Kaiserslautern:			
Container movement	Truck tractor, with cab, 32,000 GVW, 60,000 GCW, 4x2, diesel engine driven	47	10,460
	Container and chassis (note g) (bogie)	71	-
Rotterdam to Kaiserslautern:			
Container movement	Truck tractor, with cab, 32,000 GVW, 60,000 GCW, 4x2, diesel engine driven	37	10,460
	Container and chassis (note g) (bogie)	56	-
Rail movement:			
Local service	Truck tractor, with cab, 32,000 GVW, 60,000 GCW, 4x2, diesel engine driven	23	10,460
	Semitrailer, stake, 12 ton, 2 wheel, 30 foot	46	2,553

[a]Equipment needs used in our comparisons were developed from discussions and suggestions of armed forces transportation officials.

[b]Does not include extra vehicles on hand used as maintenance float.

A ratio of one semitrailer refrigerator van to each required tractor was used in Germany. Army officials informed us this ratio is necessary to maintain flexibility since the same tractor is used for other semitrailers.

[c]Based on maximum age or mileage, whichever is attained first. Where mileage becomes the basis, life expectancy was converted to years. The life expectancy for trailers is based on 15 years. Mileage is not normally considered in determining the life expectancy of trailers.

[d]GVW is the gross vehicle weight of a vehicle and includes the weight of the chassis and cab, with all attachments, accessories, and equipment; body or fifth wheel (except for chassis types); full complement of fuel, lubricants, and coolants, driver and a payload; excluding the weight of a semitrailer.

GCW is the gross combination weight of a vehicle and includes items of the GVW and weight of a semitrailer.

"4x2" means the vehicle consists of 4 wheels with 2 wheels providing the driving action.

Roundtrip		Approximate short tons moved		Life expectancy in years (note c)	Total annual acquisition cost including interest
Mileage	Time (daily)	Daily total	Per trailer, van, truck, or container		
800	2.5 days	48.0	-	3.7	$ 22,164.60
-	2.5 days	-	15	15	5,669.65
-	-	-	-	10	3,022.67
800	2.5 days	55.4	-	3.7	24,935.20
-	2.5 days	-	15	15	6,378.35
-	-	-	-	10	3,400.50
400	1.5 days	50.3	-	5.0	10,834.70
-	1.5 days	-	15	15	3,543.53
-	-	-	-	10	1,889.17
800	2 days	22.4	-	3.0	9,941.14
-	3 days	-	15	-	-
800	2.5 days	29.8	-	3.7	13,852.90
-	2.5 days	-	15	15	3,543.53
-	-	-	-	10	1,889.17
800	2.5 days	132.0	-	3.7	60,952.70
-	2.5 days	-	15	15	15,591.50
-	-	-	-	10	8,312.34
300	1 day	14.0	-	4.0	5,192.44
-	2 days	-	8	15	1,019.20
800	2 days	283.3	-	3.0	155,744.00
-	3 days	-	12	-	-
800	2 days	223.3	-	3.0	122,607.00
-	3 days	-	12	-	-
300	1 day	184.3	-	4.0	59,713.00
-	2 days	-	8	15	11,720.70

[e]Agency personnel stated that this cargo would be moved at night in order to take advantage of less traffic congestion.

[f]Additional semitrailers would be available from the night routes.

[g]Containers may be Government owned or may be furnished by the steamship companies along with chassis (bogies) to move containers inland. Cost for the furnished containers and chassis are normally included with freight charges rather than with the inland commercial carrier costs and therefore are inapplicable to this study.

[a]Excludes U.S. costs incurred in administering the contracts.

[b]The computation of Government-owned costs is based on the use of trucks, truck tractors, and semitrailers procured from the United States and on the use of local national drivers on an average of 250 workdays per year. An average of 300 workdays was used in the container computations for Germany.

[c]In computing interest on capital investment, we use the annual equivalent cost method because the vehicles have varying expected lives. Interest is based on the market yield rate of $.0673 on marketable long-term U.S. Treasury bonds at the end of August 1970. This form of computing interest is consistent with Office of Management and Budget Circular A76 instructions. (See note i.)

[d]Discussions with armed forces transportation personnel disclosed that a 10-percent factor of acquisition and transportation costs is a good estimate for the shelf support parts cost element.

[e]We used the following percentage factors of the acquisition, transportation, and shelf support costs for the maintenance float estimate.

Trucks, truck tractors, refrigerator units	10%
Trailers	4%

Normally a 7-percent factor is used for trucks and tractors in the United States. A 10-percent factor was thought by armed forces personnel to be more than adequate in view of the higher deadline rate due to the longer time to acquire parts overseas.

[f]The driver cost includes a manpower allowance for relief drivers at the rate of 1.11 times the number of regular drivers as stated in Army regulations. Local national driver costs were computed using the following average annual salaries and include fringe benefits:

Country	Type of equipment driven	Annual salary
Japan	Truck tractor	$3,300
	Heavy truck	3,000
	Light	2,900
	Petroleum tank truck	3,000
Thailand	Truck tractor	1,500
Germany	do.	3,300

[g]Fuel, tires, miscellaneous attachments, and repairs are included in this cost category. Based on available and/or military experience, we used a mileage rate of .084 for computing the direct operation and maintenance costs in Japan and Thailand and a rate of .079 for our computations in Germany.

[h]This overhead estimate provides for indirect operations and maintenance costs such as clerical and supervisory personnel, miscellaneous supplies, and facility costs. Our estimate for this cost element was calculated at the rate of 40 percent of the direct operation and maintenance costs as a result of conversations with armed forces officials rather than a 10.7-percent rate developed from army cost reports which include the overhead expenditures only at the motor pool level.

[i]The allowance for residual value is estimated at 20 percent of the acquisition cost of the vehicles required. It excludes the residual value of trucks used for maintenance float and the related value of shelf support parts.

[j]A contingency allowance of 10 percent of estimated costs to own and operate American-made equipment is used in this comparison to provide a margin for unexpected costs and other unknown factors.

[k]This commercial cost was reduced from a previous contract estimate of $240,000 for the fiscal year 1969 by a redistribution of the military's refrigerator fleet. Redistribution occurred between April 1969 and August 1969.

[l]Commercial cost for this route was reduced (between April and August 1969) from a previous contract estimate of $554,400 by increased utilization of refrigerated sea containers through the port of Rotterdam.

[m]In August 1969 the European Command informed us that all refrigerated cargo moved from Kaiserslautern was now being transported by military means except for certain small shipments for Berlin and Italy not considered highway compatible.

POTENTIAL REDUCTIONS IN DOLLAR EXPENDITURES

ABROAD BY REPLACING COMMERCIAL CARRIER SERVICES

WITH ORGANIC MILITARY TRANSPORT

SUMMARY OF SELECTED ROUTES IN JAPAN, THAILAND, AND GERMANY

FISCAL YEAR 1969

	Summary of selected routes by country			
	Total	Japan	Thailand	Germany
A ESTIMATED ANNUAL DOLLAR OUTFLOW--CONTRACTED COMMERCIAL CARRIER SERVICES (note a)	$10,721,167	$3,971,994	$3,342,517	$3,406,656
A1 Less services where furnishing American-made trucks would not be economical	1,580,758	265,558	-	1,315,200
Net estimated annual dollar outflow	9,140,409	3,706,436	3,342,517	2,091,456
B DEDUCT--ESTIMATED ANNUAL DOLLAR OUTFLOW--PURCHASE AND OPERATION OF AMERICAN-MADE TRUCKS:				
B1 Local national driver costs	1,451,300	744,300	396,800	310,200
B2 Transportation costs (note b)	15,073	9,800	3,000	2,273
B3 Operation and maintenance costs--local national labor costs (note c)	1,122,418	407,012	478,603	236,803
B4 Overhead costs (note d)	448,967	162,805	191,441	94,721
B5 Less: Allowance for residual value (note e)	-270,579	-129,916	-89,573	-51,090
Total estimated annual dollar outflow	2,767,179	1,194,001	980,271	592,907
C ESTIMATED ANNUAL REDUCTION IN DOLLAR EXPENDITURES ABROAD	$ 6,373,230	$2,512,435	$2,362,246	$1,498,549

The notes on page 50 are an integral part of this statement.

POTENTIAL REDUCTIONS IN DOLLAR EXPENDITURES

ABROAD BY REPLACING COMMERCIAL CARRIER SERVICES

WITH ORGANIC MILITARY TRANSPORT

SUMMARY AND RESULTS OF SELECTED ROUTES IN JAPAN

FISCAL YEAR 1969

		Summary of selected routes
A	ESTIMATED ANNUAL DOLLAR OUTFLOW--CONTRACTED COMMERCIAL CARRIER SERVICES (note a)	$3,971,994
A1	Less services where furnishing American-made trucks would not be economical	265,588
Total estimated annual dollar outflow		3,706,436
B	DEDUCT--ESTIMATED ANNUAL DOLLAR OUTFLOW--PURCHASE AND OPERATION OF AMERICAN-MADE TRUCKS:	
B1	Local national driver costs	744,300
B2	Transportation costs (note b)	9,800
B3	Operation and maintenance costs--local national labor costs (note c)	407,012
B4	Overhead costs (note d)	162,805
B5	Less allowance for residual value (note e)	-129,916
	Total deductions (B1 through B5)	1,194,001
C	ESTIMATED ANNUAL REDUCTION IN DOLLAR EXPENDITURES ABROAD	$2,512,435

[1]Not included in summary of selected routes. (See app. I, pp. 32 and 33.)

The notes on page 50 are an integral part of this statement.

North Pier to various other sites			
Truck			Rail
Refrigerated cargo	General cargo	Petroleum, oil, and lubricants	
$265,558	$1,251,994	$664,411	$1,790,031
265,558	-	-	-
-	1,251,994	664,411	1,790,031
83,300	286,800	144,000	313,500
2,183	4,073	1,685	4,042
56,175	165,911	67,725	173,376
22,470	66,364	27,090	69,351
-17,472	-33,712	-29,530	-66,674
146,656(1)	489,436	210,970	493,595
$118,902(1)	$ 762,558	$453,441	$1,296,436

POTENTIAL REDUCTIONS IN DOLLAR EXPENDITURES

ABROAD BY REPLACING COMMERCIAL CARRIER SERVICES

WITH ORGANIC MILITARY TRANSPORT

SUMMARY AND RESULTS OF SELECTED ROUTES IN THAILAND

FISCAL YEAR 1969

		Summary of selected routes
A	ESTIMATED ANNUAL DOLLAR OUTFLOW--CONTRACTED COMMERCIAL CARRIER SERVICES (note a)	$3,342,517
B	DEDUCT--ESTIMATED ANNUAL DOLLAR OUTFLOW--PURCHASE AND OPERATION OF AMERICAN-MADE TRUCKS:	
B1	Local national driver costs	396,800
B2	Transportation costs (note b)	3,000
B3	Operation and maintenance costs--local national labor costs (note c)	478,603
B4	Overhead costs (note d)	191,441
B5	Less allowance for residual value (note e)	−89,573
B6	Total estimated annual dollar outflow	980,271
C	ESTIMATED ANNUAL REDUCTION IN DOLLAR EXPENDITURES ABROAD	$2,362,246

The notes on page 50 are an integral part of this statement.

General cargo (trucks) Sattahip Port Complex to						
Ubon	Udorn	Nakhon Phanom	Khorat	Takhli	Uta Pao	Chacheongsao
$573,113	$470,057	$1,026,052	$394,737	$419,870	$254,385	$204,303
86,800	60,450	136,400	35,650	40,300	17,050	20,150
607	412	965	305	343	174	194
103,194	62,916	162,931	47,250	56,280	20,580	25,452
41,278	25,166	65,172	18,900	22,512	8,232	10,181
-18,921	-11,980	-29,894	-8,918	-10,415	-4,318	-5,127
212,958	136,964	335,574	93,187	109,020	41,718	50,850
$360,155	$333,093	$ 690,478	$301,550	$310,850	$212,667	$153,453

POTENTIAL REDUCTION IN DOLLAR EXPENDITURES

ABROAD BY REPLACING COMMERCIAL CARRIER SERVICES

WITH ORGANIC MILITARY TRANSPORT

SUMMARY AND RESULTS OF SELECTED ROUTES IN GERMANY

FISCAL YEAR 1969

	Summary of selected routes	Refrigerated cargo Truck: Bremerhaven to Kaiserslautern	Refrigerated cargo Truck: Rotterdam to Kaiserslautern	Refrigerated cargo Truck: Local service from Kaiserslautern	Refrigerated cargo Truck: Sea container Rotterdam to Kaiserslautern
A ESTIMATED ANNUAL DOLLAR OUTFLOW--CONTRACTED COMMERCIAL CARRIER SERVICES (note a)	$3,406,656	$168,000	$367,200	$226,800	$68,400
A1 Less services where furnishing American-made trucks would not be economical	1,315,200	-	-	-	-
Total estimated annual dollar outflow	2,091,456	168,000	367,200	226,800	68,400
B DEDUCT--ESTIMATED ANNUAL DOLLAR OUTFLOW--PURCHASE AND OPERATION OF AMERICAN-MADE TRUCKS:					
B1 Local national driver costs	310,200	33,000	36,300	19,800	13,200
B2 Transportation costs (note b)	2,273	256	287	137	68
B3 Operation and maintenance costs--local national labor costs (note c)	236,803	25,280	28,440	11,850	11,850
B4 Overhead costs (note d)	94,721	10,112	11,376	4,740	4,740
B5 Less allowance for residual value (note e)	-51,090	-5,701	-6,414	-2,866	-2,090
B6 Total estimated annual dollar outflow	592,907	62,947	69,989	33,661	27,768
C ESTIMATED ANNUAL REDUCTION IN DOLLAR EXPENDITURES ABROAD	$1,498,549	$105,053	$297,211	$193,139	$40,632

[1]Not included in summary. (See app. I, p. 36 and 37.)

[a]Excludes U.S. costs incurred in administering the contract.

[b]This cost category represents the foreign port handling charges.

[c]Local national labor costs for this line item are estimated to be 50% of the direct operation and maintenance costs. It is assumed that petroleum, oil and lubricants are of U.S. origin.

[d]This overhead estimate (20% of the direct operation and maintenance costs) provides for indirect operations and maintenance costs, such as clerical and supervisory personnel, miscellaneous supplies, and facility costs.

[e]The allowance for residual value is estimated at 20% of the acquisition cost of vehicles required. It excludes the residual value of the trucks used for maintenance float and the related value of shelf support parts.

Refrigerated cargo		General cargo			
Rail		Truck			
Bremerhaven		Sea container			
to Local service	to Kaiserslautern	Local service	Bremerhaven to Kaiserslautern	Rotterdam to Kaiserslautern	Rail Local service
$126,480	$561,000	$86,100	$735,600	$579,600	$487,476
-	-	-	735,600	579,600	-
126,480	561,000	86,100	-	-	487,476
23,100	92,400	6,600	234,300	181,500	85,800
160	702	54	1,075	846	609
15,800	69,520	5,925	185,650	146,150	68,138
6,320	27,808	2,370	74,260	58,460	27,255
-3,563	-15,679	-1,182	-32,742	-25,776	-13,595
41,817	174,751	13,767	462,543(1)	361,180(1)	168,207
$ 84,663	$386,249	$72,333	$273,057(1)	$218,420(1)	$319,269

ASSISTANT SECRETARY OF DEFENSE
WASHINGTON, D.C. 20301

17 SEP 1970

INSTALLATIONS AND LOGISTICS

Mr. Oye V. Stovall
Director, International Division
General Accounting Office
Washington, D. C. 20548

Dear Mr. Stovall:

The draft report "Economic Advantages of Using American-made Trucks to Transport Military Cargo Abroad" was forwarded to each of the Military Departments for review and comment (OSD Case #3123).

We have received their comments and find that they are in general agreement with most of the report's findings. In fact they are already taking steps to improve local operating and maintenance cost data to be used to perform cost studies. They are also considering amending procurement regulations to require consideration of alternative arrangements for use of American-made vehicles.

In addition, the Military Departments plan to provide for the procurement of American-made trucks when it is advantageous to do so and to allocate them on a priority basis to those foreign bases which offer the greatest economic advantages. They have also agreed to continue their reviews of equipment utilization and to give preference for American-made equipment and to American firms.

Although there was general agreement with most of the report, there were certain items which did not draw complete agreement. For example, there was some question regarding the accuracy and adequacy of the data on which the report is based. The difficulty of obtaining sufficient good data, cited by GAO in the report, caused some doubt about the soundness of the findings.

In addition, there was some opinion that the study was not fully consistent with the provisions of DoD Instruction 7041.3 "Economic Analysis of Proposed DoD Investments" which sets forth requirements and procedures for comparative cost analysis. This raises the possibility that the results of the cost study might have been different if GAO had used the DoD guidelines. There is also the question of whether all offsetting costs were considered if additional American-made trucks were used abroad.

Although the Military Departments expressed several reservations about this report, they did not provide any economic analyses of their own which supported their position. They have been requested to undertake detailed analyses of the various cost factors so that we may be in a position to more accurately determine the most effective and economical means of transporting military cargo abroad. While awaiting the results of these analyses, the Military Departments will continue to modify the necessary manuals, regulations and instructions to assure greater compliance with the specific recommendations of this report.

We appreciate the opportunity to comment on this report and will inform you of the results of the military analyses upon their completion.

Sincerely,

Deputy Assistant Secretary of Defense

PRINCIPAL OFFICIALS OF THE DEPARTMENT OF DEFENSE AND THE DEPARTMENT OF THE ARMY RESPONSIBLE FOR ADMINISTRATION OF ACTIVITIES DISCUSSED IN THIS REPORT

	Tenure of office	
	From	To
DEPARTMENT OF DEFENSE		
SECRETARY OF DEFENSE:		
Melvin R. Laird	Jan. 1969	Present
Clark M. Clifford	Mar. 1968	Jan. 1969
Robert S. McNamara	Jan. 1961	Feb. 1968
ASSISTANT SECRETARY OF DEFENSE (INSTALLATIONS AND LOGISTICS):		
Barry J. Shillito	Feb. 1969	Present
Thomas D. Morris	Sept. 1967	Jan. 1969
Paul R. Ignatius	Dec. 1964	Aug. 1967
DEPARTMENT OF THE ARMY		
SECRETARY OF THE ARMY:		
Stanley R. Resor	July 1965	Present
Stephen Ailes	Jan. 1964	July 1965
ASSISTANT SECRETARY OF THE ARMY (INSTALLATIONS AND LOGISTICS):		
J. Ronald Fox	June 1969	Present
Vincent P. Huggard (acting)	Mar. 1969	June 1969
Robert A. Brooks	Oct. 1965	Feb. 1969
Daniel M. Luevano	July 1964	Oct. 1965

PRINCIPAL OFFICIALS OF

THE DEPARTMENT OF DEFENSE

AND THE

DEPARTMENT OF THE ARMY

RESPONSIBLE FOR ADMINISTRATION OF ACTIVITIES

DISCUSSED IN THIS REPORT (continued)

	Tenure of office	
	From	To
COMMANDER IN CHIEF		
EUROPE:		
Gen. Andrew J. Goodpaster	July 1969	Present
Gen. Lyman L. Lemnitzer	Nov. 1962	July 1969
PACIFIC:		
Adm. John S. McCain, Jr.	Aug. 1968	Present
Adm. Ulysses S. G. Sharp	July 1964	Aug. 1968
COMMANDER, MILITARY ASSISTANCE COMMAND		
VIETNAM:		
Gen. Creighton W. Abrams	July 1968	Present
Gen. William C. Westmoreland	Aug. 1964	July 1968

U.S. GAO Wash., D.C.