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REPORT TO THE HOUSE COMMITTEE ON POST OFFICE AND CIVIL SERVICE BY THE COMPTROLLER GENERAL OF THE UNITED STATES



Postal Service Justified In Purchasing Mail Delivery Vehicles United States Postal Service

GAO concluded that the analysis used to support the Postal Service's decision to purchase rather than lease 1/4-ton vehicles was acceptable and the decision to purchase was justified.

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JAN. 9, 1976

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

B-114874

The Honorable David N. Henderson  
Chairman, Committee on Post Office  
and Civil Service  
House of Representatives

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Dear Mr. Chairman:

In response to the Committee's request, this is our report on the method used to support the Postal Service's decision to purchase rather than lease 1/4-ton vehicles.

To comply with your request we have not obtained Postal Service comments.

Sincerely yours,

Comptroller General  
of the United States

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ABBREVIATIONS

GAO	General Accounting Office
VMF	vehicle maintenance facility

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COMPTROLLER GENERAL'S REPORT  
TO THE COMMITTEE ON POST  
OFFICE AND CIVIL SERVICE  
HOUSE OF REPRESENTATIVES

POSTAL SERVICE JUSTIFIED  
IN PURCHASING MAIL  
DELIVERY VEHICLES

D I G E S T

The Postal Service contracted with the low bidder to purchase 15,695 1/4-ton vehicles for approximately \$112 million. GAO wanted to know if

--the cost benefit analyses used by the Service to justify the purchase were prepared properly, and

--the most economical procurement method was adopted.

GAO's short answer to the questions was affirmative.

It concluded that the Service's cost benefit analyses were prepared using an accepted method. GAO's independent analyses used a different method and included additional cost factors, but supported the Service's decision to purchase rather than lease the vehicles. (See pp. 4 to 10.)

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CHAPTER 1  
INTRODUCTION

Responding to a request from the Chairman, House Committee on Post Office and Civil Service, (see app. I) we evaluated how the U.S. Postal Service conducts its cost benefit comparisons when deciding whether to purchase or lease delivery vehicles. The Committee wanted to know whether the Service's analyses were done properly and whether the most economical procurement methods were being adopted. As agreed to by the Committee we reviewed the analyses underlying the decision to purchase 35,695 1/4-ton vehicles. AGC 00052

At the end of fiscal year 1974, the Service was using approximately 134,000 vehicles for transporting and delivering mail. Of these, about 38,000 were leased and about 96,000 were Service-owned. The Service uses various types of 1/4-ton vehicles for regular, park and loop, emergency, standby, and temporary mail delivery services. <sup>1/</sup> The 1/4-ton fleet, included in the above statistics, consisted of about 2,900 leased and 57,800 Service-owned vehicles.

The Service estimated it needed to acquire 35,695 1/4-ton vehicles to replace old vehicles and provide new service during fiscal years 1974 through 1976. On October 18, 1974, the Service contracted to buy these vehicles for approximately \$102 million. The purchase was split into two phases, with the vehicles to be delivered over 3 years as shown in the following table.

	<u>Replacement</u>	<u>New service</u>	<u>Total</u>
First Phase:			
1974	105	279	384
1975	11,369	4,830	16,199
First Phase Total	<u>11,474</u>	<u>5,109</u>	<u>16,583</u>
Second Phase:			
1976	14,884	4,228	19,112
Second Phase Total	<u>14,884</u>	<u>4,228</u>	<u>19,112</u>
Combined Total	<u>26,358</u>	<u>9,337</u>	<u>35,695</u>

<sup>1/</sup>See appendix II for definitions.

The decision to buy or lease vehicles hinges on whether the lower annual operating costs of Service-owned vehicles generate enough savings over the vehicles' life to offset the high initial investment required. The Service's Board of Governors has set 10 percent as an acceptable rate of return on investment for decisions of this type. If the rate of return is less than 10 percent, additional compelling factors would have to be present before the Service would make the investment.

Because money has a time value, alternative courses of action spanning several years and having different streams of future costs and/or benefits can best be compared if the costs and benefits are expressed in terms of dollars of equal value. Discounted cash-flow techniques have been developed which enable decisionmakers to compare the costs and benefits of alternatives in terms of their present value.

The Service used discounted cash-flow analyses as the basis for its decision to purchase needed 1/4-ton vehicles.

#### SCOPE OF REVIEW

We reviewed the Service's cost benefit comparisons and the method employed for estimating future vehicle costs. In addition, we performed independent cost benefit analyses using a different discounting technique than that employed by the Service and taking into account additional cost factors. Discussions were held with Service officials and the views of <sup>3</sup> the National Association of Postal Vehicle Contractors were *DIG 00945* obtained. We did not evaluate the Service's need for the vehicles.

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## CHAPTER 2

### POSTAL SERVICE JUSTIFIED IN PURCHASING

#### RATHER THAN LEASING VEHICLES

The Service's cost benefit analyses were prepared using a generally accepted discounted cash-flow method for comparing alternatives with costs to be incurred and benefits to be realized at differing times in the future. The Service's initial analysis showed that purchasing rather than leasing vehicles would save about \$147 million over the vehicles' life and provide a 37.5-percent return on invested capital.

A second analysis was made after contract bids had been received and actual purchase costs were known. This analysis indicated that purchasing vehicles would return 28 percent on invested capital.

Our independent analyses, which took additional cost factors into account, support the Service's decision to purchase rather than lease the vehicles.

#### LARGE SAVINGS REALIZED BY PURCHASING VEHICLES

##### Service's analyses

The Service uses the internal rate of return method of analysis. Under this method future savings are discounted to their present value and the aggregate savings compared to the initial investment. The rate of return on invested capital is the discount rate that yields total discounted savings equal to the initial investment required. If this rate of return equals or exceeds the Service's minimum required rate of return of 10 percent, the investment will be made. This is a generally accepted analysis method.

The Service, in its initial analysis, determined the potential cost of the new vehicles based on historical and empirical data on pricing trends in the automotive industry. The total vehicle procurement package was divided into 2-production years with a cost increase projected for each year: 5 percent for the first year and 10 percent for the second year. These projected unit costs produced an estimated aggregate cost for the vehicles of approximately \$83 million or an average unit cost of about \$2,327. Transportation costs were estimated to be \$3.9 million.

The number and types of vehicles needed and the most current unit operating cost for each type were multiplied together to arrive at the total estimated annual operating cost for both the purchased and leased vehicles. Costs were projected over the estimated service life of the vehicles.

The Service's initial analysis showed savings of about \$147 million and a return on investment of 37.5 percent as shown below.

Summary of  
Service's Internal Rate of  
Return Calculation

Purchase price of vehicles (including transportation)	\$ 86,974,000
Vehicle operating costs	145,835,000
Less: residual value of vehicles	20,762,000
Total cost of vehicle ownership	<u>212,047,000</u>
Total lease costs	<u>358,772,000</u>
Savings by purchasing vehicles	<u>\$146,725,000</u> a/
Internal rate of return	<u>37.5%</u>

a/The total savings when discounted at the 37.5 percent rate equals the initial investment of \$86,974,000.

This initial analysis was the basis for the Service's preliminary decision to purchase the vehicles.

Bids were received from two manufacturers. The low bid was for \$102 million, excluding transportation. A second analysis was performed comparing the estimated savings with the low bid. This analysis showed that the rate of return on the required investment of \$102 million would be 28 percent. Since this rate substantially exceeded the Service's minimum desired rate of return, it contracted to purchase the vehicles.

Our analyses

Our analyses showed that purchasing the vehicles would save the Service large amounts over the vehicles' life.

Although the Service's internal rate of return method of analysis is widely accepted, we used the net present value method recommended by the Office of Management and Budget for use by Federal agencies.



The two methods should provide similar results. However, the Service's method focuses on the rate of return while the net present value method uses the minimum desired rate of return as the discount rate, simplifying calculations and enabling decisionmakers to readily determine whether an investment should be made.

We made two analyses. The first used a discount rate of 7.306 percent. This represented the average yield on outstanding marketable U.S. Treasury Notes having maturities comparable to the period covered by the analysis and thus can be considered to be the cost of capital to the Government for that period. The second analysis used a discount rate of 10 percent, the Service's minimum desired rate of return.

Adjustments made and additional costs incurred

We added to our analyses

Insurance--Because the Government is a self-insurer, a factor was included to allow for the probability of damage or other claims incurred during the period the vehicles would be in use.

Risk--Risk is inherent in investment decisions. A factor was included to cover uncertainties regarding future Service vehicle requirements.

Taxes Foregone--A factor was included for State and local taxes foregone. When the Government undertakes an activity using in-house resources, State and local governments generally forego tax revenues that would have been received had the activity been performed by a tax-paying entity. Other Federal support may be required to compensate for the lost tax revenue. Generally, Federal income taxes are foregone to the U.S. Treasury when an industrial or commercial activity is performed by a Federal agency rather than a tax-paying corporation or other business entity. These foregone revenues to the Treasury would, therefore, be considered as an additional cost of the in-house alternative. Service-owned vehicles have much of their repair and maintenance performed at Service vehicle maintenance facilities (VMFs), whereas leased vehicles would be maintained by tax-paying businesses. We did not include a factor for Federal income taxes foregone in our analyses because the information necessary to compute this cost was not readily available.

Additional Maintenance--The Service assumed a 25-percent reduction in maintenance costs during the first year of vehicle operation because the vehicles would be under warranty. According to a Service official, the basis for the 25-percent reduction in first-year maintenance is that the warranties obtained by the Service exceed the general warranties obtained by others. However, first-year maintenance costs covered by warranty are minimal, and therefore, the 25-percent reduction appears to us to be excessive. Although some reduction is probable, we assumed no reduction in maintenance costs as a conservative measure.

In making its analyses, the Service assumed that the entire investment would be incurred in the first year since payments to the contractor were to correspond to the delivery dates of the vehicles, and these dates had not been established at the time of the analyses. In fact, the investment will extend over a 3-year period. Had an adjustment for this factor been made in the Service's analyses, the internal rate of return would have been higher than 28 percent.

The following summarizes the results of our analyses.

Summary of GAO Analyses

(in present value dollars)

	<u>Undis-</u> <u>counted</u>	<u>7.306 percent</u> <u>discount factor</u>	<u>10 percent</u> <u>discount factor</u>
	----- (000 omitted) -----		
<u>Purchase Basis:</u>			
Vehicle purchase cost (excluding transportation)	\$102,000	\$102,000 <sup>a</sup>	\$102,000 <sup>a</sup>
Vehicle operating cost (discounted amount that includes GAO factors, 4-6 years)	207,414	163,094	151,040
Less: residual value	<u>20,762</u>	<u>13,417</u>	<u>11,810</u>
Total Cost of Service- Owned Vehicle	<u>288,652</u>	<u>251,677</u>	<u>241,230</u>
<u>Lease Basis:</u>			
Total cost (4-6 years)	<u>353,772</u>	<u>262,337</u>	<u>241,530</u>
Savings by purchasing vehicles	<u>\$ 70,120</u>	<u>\$ 30,660</u>	<u>\$ 20,300</u>

a/Since payments to the contractor were to correspond to the delivery dates of the vehicles, and these dates had not been established at the time of our review, our calculations assume that the entire investment would be made in the first year.

CHAPTER 3  
ISSUES RAISED BY THE NATIONAL  
ASSOCIATION OF POSTAL VEHICLE CONTRACTORS

The Committee gave us information it received from the National Association of Postal Vehicle Contractors which questioned certain practices the Service followed in preparing its cost comparisons.

The association represents a group of companies that lease 1/4-ton and 1/2-ton vehicles to the Service. We met with association officials at their request. The primary issues raised by association officials were that the Service

- failed to include all costs in its analyses, and
- used average cost figures which ignored situations where leasing would be cheaper than owning vehicles.

ARE ALL DIRECT VEHICLE COSTS  
INCLUDED IN SERVICE'S ANALYSES

The Service obtains data on transport, operating, and maintenance costs by vehicle make, model, and year through its vehicle accounting system. The data obtained is used in evaluating vehicle performance and guiding procurement and disposal decisions. The system covers all transport and mail-service vehicles owned and operated by the Service.

Our review of the accounts that comprise the vehicle accounting system, discussions with Service officials, and examination of the Service's cost benefit comparisons showed that all direct costs of maintenance and operation of Service-owned delivery vehicles were included in the cost benefit comparisons.

The association provided us a listing of costs it believed should have been included in the cost benefit comparison. Of these costs, four were not considered by the Service in its analyses. These costs were;

- supervision and overhead concerned with vehicle operations above the VMF level,
- liability insurance or reserve for such,
- State and local taxes foregone, and
- cost of reserve fleet (standby vehicles).

We included a factor for insurance and taxes. As discussed previously, our analyses confirmed the Service's decision to purchase the vehicles.

We did not consider upper-level supervision and overhead costs above the VMP level principally because these costs would, in all likelihood, be incurred whether the vehicles were leased or purchased.

All standby vehicles are leased. Thus, the costs of standby vehicles should not have been considered.

USING AVERAGES MAY IGNORE SITUATIONS  
WHERE LEASING IS CHEAPER THAN BUYING

The association contends that it would be cheaper in certain geographical areas for the Service to lease rather than purchase needed vehicles. The association contends that the use of nationwide averages for the cost of leasing vehicles and operating Service-owned vehicles ignores situations where it would be cheaper to lease than buy vehicles.

The Service's procedures for including vehicles in procurement plans, if properly carried out, minimize the possibility that officials may be purchasing vehicles when leasing would be more economical.

Before a local post office requests a vehicle replacement, the Service's procedures require that the supervisor in charge of vehicle operations make certain that service with vehicles presently assigned is impossible and that contract vehicle hire has been given adequate consideration.

When vehicles are required because of additional or new service, the post office requesting the vehicles is required to prepare and submit to the regional office a Vehicle Assignment Justification and Request. This request contains information needed by the regional office to evaluate the vehicle requirement, such as

- number, type, and capacity of vehicles needed,
- daily and annual hours of service involved,
- potential staff-hour savings, and
- effect on existing vehicle contract obligations or estimated cost of contract vehicle hire.

When, on the basis of their review, regional officials determine that an adequate economic justification exists, these needs are forwarded to headquarters and included in planning for new vehicle procurements. Thus, the Service has a system that should enable management to take advantage of local conditions that make leasing vehicles more cost effective than owning vehicles.

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CHAPTER 4

CONCLUSIONS

The internal rate of return method used by the Service, although not the method recommended by the Office of Management and Budget, is an acceptable method of comparing alternatives which have different streams of costs and benefits. However, it would be unusual for the results of the analysis to change due to the method used.

We found that the Service's decision to purchase rather than lease the vehicles was to its benefit. More specifically

--the Service's method of determining costs and/or benefits showed a 28-percent return on invested capital by purchasing, and

--our calculations, which included some costs not considered by the Service, showed estimated savings to the Government by purchasing of about \$70 million.

The decision to purchase or lease vehicles at the headquarters level was made using nationwide averages of the costs of each alternative. We believe the Service's approach was reasonable. We further believe that the Service's procedures for including vehicles in headquarters procurement plans, if properly carried out, minimize the possibility that the Service may be overlooking situations where, in certain geographical areas, leasing is less expensive than buying vehicles.

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## U.S. House of Representatives

COMMITTEE ON POST OFFICE AND CIVIL SERVICE

207 CANNON HOUSE OFFICE BUILDING

Washington, D.C. 20515

October 16, 1974

B-114874

Honorable Elmer B. Staats  
 Comptroller General of the  
 United States  
 Washington, D.C. 20548

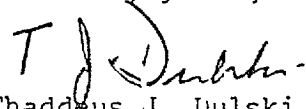
Dear Mr. Staats:

In relationship to our Committee's oversight responsibilities and Postal Subcommittee's continuing investigation of the United States Postal Service I would appreciate having your office inquire into how the United States Postal Service conducts its cost/benefits comparisons between purchase of delivery vehicles and leasing of such equipment. My concern, of course, is to know whether the comparisons are being done properly and that the most economical procurement methods are being adopted.

If the General Accounting Office has any questions or needs any additional information concerning this request, please feel free to contact our Committee at any time.

A report, as soon as possible, will be greatly appreciated.

Sincerely yours,

  
 Thaddeus J. Dulski  
 CHAIRMAN

TJD:ggp

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GLOSSARY

Regular service - Using a vehicle to deliver and collect all classes of mail (e.g., curb-line, dismount-door, or combination thereof).

Park and loop service - Using a motor vehicle for transporting all classes of mail to the route, using the vehicle as a moveable container as the carrier loops segments of the route on foot.

Emergency service - Using a motor vehicle for transporting mail when the assigned vehicle is temporarily inoperable. Use should be limited to 6 days.

Standby service - Making available a limited number of vehicles to each post office to assure continuity of service. Not to be used for establishing new service or regular daily use on an existing route.

Temporary service - Using a motor vehicle for transporting mail during peak periods or when assigned vehicle is not available for mail transport. Use is restricted to 60 days and is not renewable.

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