



The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search

<http://ageconsearch.umn.edu>

aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

No endorsement of AgEcon Search or its fundraising activities by the author(s) of the following work or their employer(s) is intended or implied.

PROCEEDINGS —

Fifteenth Annual Meeting

Theme:

“Transportation in Focus”

October 10-11-12, 1974

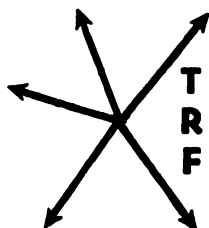
Fairmont Hotel

San Francisco, California



Volume XV • Number 1

1974



THE UNIVERSITY
OF MICHIGAN
NOV - 5 1974
ENGINEERING

TRANSPORTATION RESEARCH FORUM

The Economic Efficiency of Private Motor Transportation

by Bernard V. Sigg*

IT HAS BEEN ASSUMED that the economic efficiency of private motor carriage is less than the efficiency of for-hire motor carriage. The stated reason for this assumption is the reduction of empty mileage based upon the for-hire carrier ability to balance loads into two way movements.

The purpose of this paper is to explore the relative costs of both types of motor carriage and to identify the empirical economic efficiencies of private motor transportation.

The decision to make or buy motor transportation is based upon several well recognized factors.

(1) The availability of for-hire carrier service.

(2) The price or rate available from the for-hire carrier.

(3) The need for flexibility in competitive marketing with controlled delivery and specialized equipment.

(4) The packaging requirements and the incidence of theft, loss, and damage.

In this paper we will not consider the marketing service value nor the control aspect of PMT as economic advantages, (even though they certainly have economic effects). Instead, we will concentrate on the cost elements of private vs. for-hire motor transportation.

The best way to make this comparison is to examine in detail the cost elements of a representative private carrier and relate them to the industry composite motor carrier expense analysis for Class I intercity common carriers of general freight.¹

It can be argued that there is no typical private carrier, and in a sense this is certainly true—comparing a drug store delivery truck, a transcontinental express run, or an oil field service private carrier would result in absurd conclusions. A realistic comparison can be made by selecting a private motor carrier with outbound intercity LTL & TL shipments and returning with LTL & TL backhaul traffic for inventory and production. The identity of the company selected for this comparison must be protected, but it has been a private carrier for more than ten years and has a well developed cost accounting system. The company operates with driver teams and single drivers into a highly industrial-

ized area and thus has above average private carrier driver costs. The fleet incurs expenses of approximately \$4,000,000 per year—just about the size of the median Class I for-hire carrier reporting to the ICC. The fleet operated about 8,000,000 miles in 1973. Table 2 illustrates the cost elements of the PMT Division of the Profitable Corporation for Fiscal Year 1973. The cost elements have been rearranged to conform to the ATA expense analysis format shown in Table 1 for Class I intercity common carriers of general freight (1971 is the latest available data).

CONCLUSIONS AND EXPLANATIONS

As shown in Table 3, the PMT Division has an economic advantage in every cost category; a surprising result. In addition, if the PMT Division operated without any backhaul whatsoever (50% empty miles) and the for-hire carrier with a 100% load factor, an unlikely event, the comparison on cost per vehicle mile would still favor the PMT Division on a cost per loaded mile basis 98.6¢ to 125.7¢, a difference of 27.1¢ per mile.

There are many reasons which can be offered to explain the economic advantage of private motor transportation. The significant differences in cost are in the transportation and the terminal categories. Specifically, the excessive pick-up and delivery costs and the multiple terminal dock handlings required to serve many shippers and consignees in the for-hire carriers' operating territory are not required by the PMT Division. In addition, because the private carrier can schedule vehicles and drivers precisely to conform to the needs of only one distribution system, they are able to reduce the delay at docks and terminals and thereby increase productivity and lower costs per vehicle mile substantially. They may take the shortest practicable route and are not restricted by ICC grants of operating rights or routes. The cost of solicitation, advertising, and price (rate) quotation are completely eliminated by the private carrier. Because there is less handling of shipments there is less loss and damage and because the all inclusive corporate blanket insurance policy provides lower rates, the resulting insurance and safety expense of the PMT Division is consider-

*Manager of Distribution Engineering, Ryder System, Inc., Miami, Florida.

**MOTOR CARRIER EXPENSE ANALYSIS
CLASS I INTERCITY COMMON CARRIERS OF GENERAL FREIGHT
COMPOSITE EXPENSE SHEET—1971**

Cost Element	Average Expense Per Intercity Vehicle Mile (¢)
Equipment Maintenance	
Repairs and Servicing—Revenue Equipment	7.8
Tires & Tubes—Revenue Equipment	2.0
Other Maintenance Expenses	1.9
Total Equipment Maintenance	11.7
Transportation	
Drivers and Helpers	35.4
Fuel and Oil—Revenue Equipment	3.0
Purchased Transportation	10.8
Other Transportation	7.3
Total Transportation	56.6
Terminal	
Supervision, Office and Other Expenses	6.5
Salaries & Wages—Platform & Other Terminal Employees	13.3
Other Terminal Expenses	7.5
Total Terminal	27.3
Traffic	
Supervision, Office and Other Expenses	2.4
Tariffs and Schedules	0.2
Other Traffic Expenses	1.1
Total Traffic	3.7
Insurance & Safety	
Public Liability and Property Damage	1.2
Workmen's Compensation	1.0
Cargo Loss and Damage	1.9
Other Insurance and Safety Expenses	1.1
Total Insurance & Safety	5.2
Administrative & General	
Supervision, Office & Other General Office Expenses	3.4
Communication Service	1.3
Other General Expenses	3.8
Total Administrative & General	8.4
Other Expenses	
Depreciation Expense—Net, & Amortization of Carrier Property	4.6
Operating Taxes and Licenses	8.2
Total Other Expenses	12.8
Total Carrier Operating Expenses	125.7

Source: American Trucking Trends, 1973, American Trucking Associations, Washington, D.C.

TABLE 1

**PMT DIVISION
PROFITABLE CORPORATION*
(FISCAL YEAR 1973)**

Cost Element	Average Expense Per Vehicle Mile (¢)	
Equipment Maintenance		
Repairs and Servicing	6.9	
Tire Replacement	1.0	
Total Equipment Maintenance		7.9
Transportation		
Drivers—Wages	17.2	
Payroll Deductions	2.4	
Holiday/Vacation	1.1	
Lodging/Meals	.5	
Total Driver (Transportation Only)	(21.2)	
Fuel	7.7	
Tolls	1.2	
Ton Mile—Tax	.1	
Total Transportation		30.2
Terminal		
Drivers/Helpers—Loading & Unloading		2.8
Traffic		
None		—
Insurance & Safety		
Allocated Portion of Company Insurance Policy	.5	
Provision for Loss and Damage	.8	
Total Insurance & Safety		1.3
Administrative & General		
Management Salaries & Expenses	.7	
Communication Services	.2	
Other Expenses	.5	
Total Administrative & General		1.4
Other Expenses		
Depreciation & Truck Lease/Rental (Fixed Component)	5.2	
License & Permits	.5	
Total Other Expenses		5.7
Total Cost of Fleet Operation		49.3

*Corporate name withheld. A major U.S. corporation transporting general freight with more than 10 years experience in private motor transportation having excellent cost records. Cost elements have been arranged to conform with Table 1.

TABLE 2

ably less than that of the for-hire carrier. In the administrative and general cost area, the for-hire carrier must provide a full range of corporate management while the PMT Division, avails itself of these services (law, personnel, etc.) only when required, with the resulting lower cost. In the other expense category, the depreciation and truck lease expense is actually higher for the PMT Division due to inclusion of leasing

company profits and perhaps shorter depreciation terms for equipment, but this is more than offset by the for-hire carrier's higher operating taxes and license expense.

With the present day inflationary economy, it is unlikely that the efficient for-hire carrier will ever match the economic efficiency of the average private carrier.

COMPARATIVE COSTS (IN CENTS PER VEHICLE MILE)

Expense Category	PMT Division Profitable Corporation FY 1973	Composite Class I Intercity Common Carrier General Freight	Variance
		1971	
Equipment Maintenance	7.9	11.7	— 3.8
Transportation	30.2	56.6	—26.4
Terminal	2.8	27.3	—24.5
Traffic	—	3.7	— 3.7
Insurance & Safety	1.3	5.2	— 3.9
Administrative & General	1.4	8.4	— 7.0
Other Expense	5.7	12.8	— 7.1
Total Carrier Operating Expense	49.3	125.7	—76.4

NOTE: Net interest and income taxes are deducted from common carrier revenues and are thus excluded for the purposes of this analysis. The PMT Division's cost of money would be equal to or less than the for-hire carrier.

TABLE 3

POSTSCRIPT

To survive the for-hire carrier must make a profit—the private carrier merely break even—zero economic profit.

BIBLIOGRAPHY

Oi, Walter Y., and Hurter, Jr., Arthur P., *Economics of Private Truck Transportation*, The Transportation Center, Northwestern University.

Report No. DOT-OS-30017, *Case Stud-*

ies of Private Motor Carriage, November 1973, Department of Transportation, Washington, D.C.

Vreeland, Barrie, *Private Trucking from A to Z*, Shippers Conference of Greater New York, Inc., N.Y.

FOOTNOTE

1 Compiled annually by the Department of Research and Transport Economics, American Trucking Associations from reports of carriers to the Interstate Commerce Commission.