

Research Results



An Analysis of the Operational Costs of Trucking

The Problem

In response to mounting infrastructure improvement needs and dwindling state budgets, policy makers – led by the U.S. Department of Transportation (USDOT), have begun embracing creative financing strategies. In attempting to justify certain new truck fees such as congestion pricing, the time/distance value of operating a truck is often overstated. Alternatively, certain programs underestimate truck costs when the industry seeks increased program funding.

There is a lack of accurate and publicly available information on the operational costs of trucking; that is, **the full marginal cost of operating a truck one mile or one hour in standard operating conditions.** Accurate cost figures are needed as inputs to transportation planning models to ensure that benefits to users are not over-inflated or that critical investment needs are not downplayed.

Research Goal

The research objective focused on the identification of current, accurate motor carrier costs that derive from transportation system operations. With a growing emphasis on the use of transportation planning models by decision-makers, ATRI's Research Advisory Committee (RAC) identified as a priority the quantifying of key marginal cost centers and how these costs fluctuate by fleet size, sector and regions of the country. This research may also be used by motor carriers as a high-level benchmarking tool.

Methodology

ATRI developed, beta-tested and distributed a survey to a cross-section of for-hire motor carriers, representing the predominant sectors of the industry. Carriers of different sizes and regions of operation were included. Survey responses were aggregated and analyzed. When necessary, costs per mile (CPM) were converted to costs per hour (CPH) using an industry accepted average operating speed.

Findings

Total marginal costs for the industry were \$1.73 per mile and \$83.68 per hour. Marginal costs were divided into vehicle- and driver-based. Top costs for carriers were diesel fuel/oil, driver wages and truck/trailer lease or purchase payments. Additional cost centers were captured beyond those presented here, including data sets for private fleets.

Across most key cost centers, significant cost fluctuations by industry sector were found. The Specialized sector had the highest total marginal CPM, followed by the Less-than-Truckload (LTL) and Truckload (TL) sectors.

Motor Carrier Marginal Expenses	Costs Per Mile	Costs Per Hour
Vehicle-based		
Fuel-Oil Costs	.634	\$33.00
Truck/Trailer Lease or Purchase Payments	.206	\$10.72
Repair and Maintenance	.092	\$4.79
Fuel Taxes	.062	\$3.23
Truck Insurance Premiums	.06	\$3.12
Tires	.03	\$1.56
Licensing and Overweight-Oversize Permits	.024	\$1.25
Tolls	.019	\$.99
Driver-based		
Driver Pay*	.441	\$16.59
Driver Benefits	.126	\$6.56
Driver Bonus Payments	.036	\$1.87
Total Marginal Costs	\$1.73	\$83.68

*CPH figures are based on respondents' actual driver hourly pay rates

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ATRI's primary mission is to conduct and support research in the transportation field, with an emphasis on the trucking industry's essential role in the U.S. and international marketplace.