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# PROCEEDINGS — Eighteenth Annual Meeting

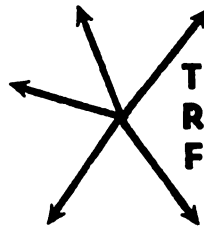
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**TRANSPORTATION RESEARCH FORUM**

# Transport Pricing and Public Policy: A Trucking Perspective

by G. K. Thompson

THE THEME OF "Transport Pricing and Public Policy" is an extremely ambitious one and in fact, one could spend almost the whole of the 20 minutes allocated to the presentation of these remarks in listing the various elements that could be covered. For example, it was suggested that a discussion might be undertaken on efforts to improve productivity, curb inflation, increase employment, conserve energy, as well as that hoary old chestnut, how transport could help in reducing regional economic and social disparities. Not only is the theme an ambitious one, it has the potential of being an extremely treacherous one for the trucking industry, as trends and forecasts have a traditional habit of being inaccurate where trucking is concerned. Who would have predicted even 15 years ago the role that trucking now plays in the Canadian transportation and distribution system? This has, of course, come about as a result of thousands of individual decisions by entrepreneur/managers who have been engaged in building up a mature trucking industry. It is worth taking a minute or so to put this development into perspective. That is, the two traditional modes of transport, namely rail and water, which enjoyed virtually complete dominance up to 1950 have steadily decreased their combined share of the transportation market from 98% in 1930 to 44% in 1974. In large part the reason for this decline was that the 'for-hire' trucking industry increased its revenues from an estimated \$8 million in 1930 to an estimated \$3.1 billion in 1974. Consequently, the 'for-hire' trucking industry thus became the largest mode of freight transport as measured by operating revenues. It is worth emphasizing that these figures ignore the accompanying increase in the role of private trucking. Precise figures are not available on the magnitude of private trucking, although it is known that the largest number of commercial vehicles are owned by private fleets. However, as an interesting example, a 1975 Ontario survey showed a for-hire/private split of 57% to 43% in terms of vehicles surveyed at highway weigh scales. When you consider that this data is for the heavier category of vehicles, where 'for-hire' companies have traditionally dominated, it shows an interesting development. This

rise in private trucking is a useful illustration of the fact that trucking has grown not simply because of rates, (prices and therefore costs) but because of the service related factors which trucking offers. This will be an important consideration to bear in mind as we discuss the various elements of trucking costs that will be subject to inflationary pressures over the next few years. Trucking has grown, not because it is the lowest cost mode in dollar terms, but rather because it offers a whole series of service characteristics that shippers in a modern diversified economy find important. It is undoubtedly true that the Canadian trucking industry has grown principally because of the diversification of industry away from the primary resource sector over the last 30 years. As this structural change in the economy continues in the future the trucking growth trend may continue, but it is virtually certain it will be at a slower rate.

This preamble may seem rather lengthy, but in fact it is very important to understand the nature and composition of the trucking industry before talking about costs. The other modes that you will be considering during your deliberations at this Conference are very different in structure. For example, with rail carriers, the overwhelming majority of revenues and ton-miles are generated by just two carriers. Airlines demonstrate essentially the same picture. However, trucking still has thousands and thousands of small carriers who form a small but very important segment of the trucking industry—even though it must be admitted that the Class I carriers generate over fifty percent of total revenues. Hence, when we talk about transport pricing or transport costs with respect to trucking, we must recognize that there is no homogeneous industry even though for brevity we like to talk of "the trucking industry." Just to give one example, those carriers who are engaged in long-haul LTL shipments of general freight require highly sophisticated communication networks and terminals. This may not be true for the small carrier who specializes in truck-load movements from a manufacturer to a distributor. Hence, even in the general freight segment of the industry there are major operational differences that should be considered before any conclusions are drawn. The

same is true for other parts of the industry, and I am willing to bet that almost anything could happen to the cost of fuel or the availability of labour, but very little would occur by way of moving household goods by rail. That kind of kindling wood is just too expensive to come by! However, what could change the viability of household goods movers would be a radical change in corporate or governmental moving policies. The fact that corporations are detecting a distinct reluctance on the part of many people to move from one location to another during their career, for whatever reason, will have a distinct impact on household goods carriers. These are very simple examples but they are a practical illustration of the fact that there is not one single unique supply and demand relationship for trucking services. Having I hope, hammered home the point that the so-called trucking industry is in fact an aggregation of smaller specialized industries, the only common denominator of which is that they use road goods vehicles, we can now turn to the main topic which is that of transport pricing. I am afraid that at this point I intend to disappoint those economists among you who might have anticipated a discussion on alternate objectives of the transportation firm. Those familiar with theoretical economics will have seen over the last few years that the traditional concept of profit maximization has been enlarged into short-run profit maximization, revenue maximization, sales maximization, etc., etc. Unfortunately, the data is just not available to undertake an analysis of this type on the Canadian trucking industry in order to determine the pricing behaviour of individual firms. Undoubtedly examples could be cited of each of these various types of behaviour if it were not for the fact that possibly the most wide-spread internal method of evaluating a company's performance is the operating ratio. This is a measure that compares total operating costs to total revenues. This crude but effective measure is used by virtually all carriers from the smallest to the most sophisticated to evaluate their performance in an on-going fashion. Implicit in this, of course, is the idea that there is a satisfactory rate of return in the short-run for the operations of the firm. However, whatever margin is thought to be satisfactory, it becomes immediately apparent that when we talk about transport pricing in the trucking industry we are very quickly talking about transport costs. Hence, the remainder of this paper will deal with where transportation costs may be headed and I have assembled a few thoughts on some of the principal cost categories in trucking operations.

Due to the limited time available each of them will only be treated to a cursory examination.

The first one I would like to consider because of its topicality is fuel:

#### FUEL

I suppose before going any further we have to put trucking energy consumption into perspective as there still seems to be a lack of understanding on precisely the amount of energy that is consumed by trucks in this country. Using the most recent Statistics Canada figures that are available it is apparent that road diesel users only account for approximately 4% of total transportation energy consumption. Of this, approximately three-quarters can be allocated to trucks primarily on inter-city hauls. I am not trying to say that this is not a sizeable consumption of liquid hydrocarbons and of course it does not account for gas used in city P & D work, however, it is nothing like the figure sometimes claimed for trucking in Canada. Part of our problem undoubtedly stems from the unfortunate ton-mile comparisons that have been made in the past between trucks and trains. These simplistic comparisons have been discredited because when you get down to it, trucks are not in the ton-mile business. As I mentioned earlier, we have a heterogeneous industry which is just not in the business of competing on the movement of bulk products over long distances with the railways—the source of the rail advantage on the basis of BTUs per ton-mile. I do not intend to spend any further time on this point as an exhaustive critique of the issue has been undertaken by the Canadian Trucking Association and copies can be made available upon request.

The principal question now—as the hysteria during the initial months of the energy crisis has abated—is precisely what rational and cost effective steps can be taken to conserve energy in the trucking industry? There are undoubtedly benefits from adopting certain technological innovations such as modifying the aerodynamic drag of trucks. These have become popular recently and they will continue to be important. Other mechanical adaptations such as thermatic fans and radial tires also have a beneficial impact on the fuel consumption of trucks. Operational measures too are extremely important and it often comes as a shock for many people to realize that the industry in Canada has been calling for 55 mph as the maximum speed limit for trucks for the past four years. We were in the van of this demand and were well ahead of most provincial governments! Fortunately, the more liberal

gross vehicle weights and dimensions permitted in Canada compared to those in the U.S. enable the trucking industry here to be relatively more energy efficient. However, we must realize that we are coming up against a technological barrier in that in some parts of the country we will not be able to increase the length of configurations or permit them to get much heavier with the limits of currently existing technology. With this in mind, perhaps the major remaining untapped avenue for increased energy efficiency is better driver performance. It has been demonstrated for example that the benefits of the aerodynamic add-on devices mentioned earlier can be completely undone by inappropriate driving habits. On the supply side, it is likely that the trucking industry will eventually see increased competition from passenger cars (and homes for that matter) for the middle distillates that form the basis for diesel fuel. As alternate fuel sources for trucks are difficult to come by, this is a worrying possibility. It is in this context that the research efforts to obtain methanol from wood wastes to act as a gasoline blend or substitute and the research on the potential of coal gasification as a source of liquid hydro-carbons become increasingly important. Another often forgotten aspect of energy conservation is the indirect use of energy in the production of vehicles. It has been estimated on occasion that up to 30% of the energy required during the life of a vehicle is used in its manufacture. Hence, if increased durability of vehicles could be attained this would obviously be a significant advance in reducing the total energy input to trucking services.

We continue to believe that the best single method for encouraging conservation in the commercial sector is by way of price. The trucking industry as a whole is interested in seeing that the price adequately reflects the availability of the resource with the assumption, of course, that exploration for new supplies is undertaken with the revenues generated. I would contend that the reason that carriers are well motivated to install energy conserving devices is simply that the impact of the recent price increases is reflected directly in their operating costs. It is not subsumed under other headings such as Leisure and Recreation which is true, for example, of passenger car users. From the public policy point of view, however, the question of fuel price increases presents a paradox. While there are strong arguments that in order to conserve energy fuel prices should rise to the world level, at the same time, it must be realized that increases in ad valorem taxes which were

originally placed on fuel sold at prices determined in the market have a regressive impact on the poorer segments of the community. This is true because the majority of basic consumer needs such as food, beverages and clothing move primarily by truck. Consequently, it is our view that percentage based excise and sales taxes should not increase when the price of fuel is increased but should be frozen at their current level.

Finally, on the question of fuel, it has been pointed out from time to time that there is a distinct role to be played by the small diesel in city P & D work. To date, these vehicles have not been very attractive because of their initial higher cost and more rigorous maintenance requirements. There are modifications to existing tax policy that the government could undertake to accelerate the advent of the diesel in urban movements which are:

1. Eliminate the federal sales tax on diesel fuel.
2. Allow a faster write-off for tax purposes for diesel engines.

This would help bring about the same increase in energy efficiency for urban operations that has occurred in highway operations over the past 15 years.

## LABOUR

Trucking is of course a labour intensive industry and innovations are difficult to achieve in this area given the fact that we have almost reached the limits of larger and heavier vehicles. It is difficult to conceive of a driverless truck! Even though there is widespread unemployment at the moment, it is our contention that five years from now there will be strong competition for a decreasing supply of individuals who will be willing to work in trucking—or for the railways for that matter. Historically, the trucking industry has relied upon candidates with relatively low academic skills to comprise its labour force. Most of the required knowledge and skills have been obtained on the job. Nevertheless, population trends show that the traditional pool of new entrants to the labour force will decline about approximately 40% during the period 1980-1985. The implication of this could be startling when it is considered that employment in the transport sector grew at an average rate of 2% during the 1960s. Given the fact there are strong unions at work in the trucking industry and that other constraints on labour availability have recently been introduced, (such as the classified driver licensing scheme), this undoubtedly will produce intense cost pressures in the near future.

## CAPITAL

There are relatively few public companies in trucking and so it is not easy to quote statistics on this issue with any degree of confidence. However, as we mentioned in a paper to the CTRF last year, it is apparent that the industry has grown by retaining earnings. There are now fundamental questions being asked as to whether this trend will continue in the future. Obviously, the trend will only continue, if carriers are allowed to earn a sufficient return and if public policy in the widest sense is geared to the encouragement of private initiative. The combination of a low rate of return during a period of inflationary pressure is extremely corrosive to an industry like trucking which still remains entrepreneurial in nature. The coming rub is that as professional financial managers progressively replace entrepreneurial-owners, they will begin to be far more hard nosed about adequate returns on investment. Unless present conditions change, this implies that required increases in capacity will not continue to be financed as in the past. We have slack in the economy now, but if we are interested in generating future growth, we must address now the problem of adequate rates of return. As an ancillary point, it seems obvious to us that there must be a stable regulatory environment. The operating authority or franchise concept which has been developed in trucking has recently been under attack from many quarters. However, it must be realized that this assures an entrepreneur who has poured money back into his business that there will be some residual capital for him once his trucks and terminals have been written off at the end of their useful lives. This is not a particularly elegant concept, but it is a very practical one nevertheless and one that must be taken to heart by those who would tamper with the existing transportation system.

## VEHICLES

Vehicles pose a unique problem in that efforts to reduce their tare weight have involved increased use of lighter materials such as plastics and aluminum. Unfortunately, both of these involve increased amounts of energy in the manufacturing process—either the materials are petroleum based in origin or they require more BTUs per pound to smelt. Hence, as fuel costs increase, these will continue to be reflected in the capital cost of vehicles. Further, each component of the truck or tractor is now being subject to increasing regulatory requirements. Standards are now set for tires, brakes, the axle system, etc. We are not quibbling with this in principle, but serious attempts must be made to gauge

all costs and benefits and to select the most cost effective solution for a particular problem. In other words, are more regulations really required, or would the most appropriate strategy be to increase the enforcement of minimum maintenance standards? Would it be more appropriate to enforce the speed limit? Undoubtedly a major problem here lies in the fact that the Federal Government has the responsibility for mandating original equipment manufacturing standards but the provinces are responsible for the manner in which vehicles operate on their highways.

## INFRASTRUCTURE

Included in carrier costs are all the taxes and fees associated with the use of highways. Now that the basic highway network is in place, it seems likely that from now on maintenance and rebuilding will form the majority of highway expenditures. However, this activity will involve increasingly scarce petroleum products and it is also labour intensive. Hence, it will be expensive. Undoubtedly there will be pressures to postpone this type of expenditure but it should be recognized that this will result in diffuse but sizeable increases in operating costs for all road users.

When dealing with the overall costs of infrastructure, the most often quoted figures are those in the CTC reports dealing with road costs and revenues. We are often berated with the fact that the railways are supposedly the least subsidized mode because they pay 74% of the total cost of the system. Highway users are assumed only to pay a national average of 64% with civil aviation and marine paying a much smaller figure. However, before these figures are taken as gospel, what we must point out is that the same CTC study went on to state that if revenues and costs were allocated for the rail mode in a manner similar to that for the other modes, whereby transportation companies paid for equipment first and then contributed to the cost of infrastructure through user charges, a substantially different picture would emerge. On that basis, by allocating revenues to operating costs and equipment purchases and allocating only what was left over to the cost of infrastructure, then the study demonstrated that rail would not fare much better than marine or air in terms of contributing to the cost of right of way. On the highway side, the figures of course make no distinction between public and commercial users. On the other hand, the MOT Task Force report suggested that motor coach users were paying entirely for their share of highway use. Similarly, an Ontario Royal Com-

mission Report on Taxation undertaken a few years ago determined that heavy trucks and buses were paying more than their fair share of highway infrastructure costs through license fees and fuel taxes. Whether commercial motor carriers are paying more or less than their fair share of highway costs obviously varies from province to province and depends primarily on the level of commercial activity. For example, it is rumoured that Highway 401 in Ontario (at least between Toronto and Windsor) is the greatest revenue earning asset owned by the Province! On the other hand, road user taxes generated in under-developed provinces hardly pay for the barest essentials. Consequently, there is no once and for all resolution to this issue that is valid for every region of the country for all time but rather it is an issue that requires careful and ongoing study.

#### OTHER ISSUES

In this brief discussion on forthcoming problems with various cost categories, several important aspects have had to be

omitted. For example, the potential for reducing the administrative burden on carriers by streamlining government reporting requirements is an important if unexciting topic.

Just think though what a single fuel tax reporting form could do by way of cutting down administrative costs if it was adopted to replace the many different forms currently in use. Happily, some progress is being made in this regard. The role of competition in modifying transport rates is also worthy of discussion but would require a paper to itself. What is worth saying at this point is that current trucking rates do not reflect the inflationary increases in the replacement costs of equipment. How this problem will eventually be solved is not known, however, existing competitive pressures on rates make it unlikely that it will be resolved in the near future.

In conclusion, I hope I have been able to shed some light on a few aspects of trucking costs. I will be pleased to answer any questions you might have.