

# Direct Costs of Maintaining a Regulatory Structure: A Case Study of One Canadian Jurisdiction

FRANK R. WILSON AND JOHN R. BRANDER

The majority of research completed in North America has been directed to the study and analysis of the cost of trucking regulation relative to the rate structure. Little work has been completed on the analysis of the direct cost of regulation as it relates to carriers, shippers, government, and regulatory bodies. The results of a study of the direct costs of maintaining a regulatory structure in the for-hire sector of the trucking industry are discussed. The province of New Brunswick, 1 of 10 Canadian jurisdictions, was used for the case study. The data obtained from a series of mailed questionnaires were used to analyze the direct costs incurred by carriers and shippers. In addition, their views regarding the regulatory process were studied. The primary focus was on the costs incurred in making application for a motor carrier license in the case study area. Personal interviews were conducted in an effort to quantify the direct cost associated with the Motor Carrier Board and related government agencies. The direct cost of maintaining the motor carrier regulatory process in the study area did not appear to be of significance to shippers and carriers that have secured operating rights. In addition, the provincial administrative process does not appear to impose a financial burden on general revenues. Carriers that responded to the survey heavily favored continued regulation of the for-hire trucking industry. General freight and specific commodity carriers were also found to be in favor of ensuring that rates within the province of New Brunswick remain unregulated.

During the past two decades considerable research has been devoted to the question of the costs imposed on society by the regulation of transportation. The majority of this research has focused on the question of the deadweight welfare losses associated with value-of-service pricing and the consequent misallocation of traffic among competing modes. Felton's research (1) is an exception to this practice. Felton's work focused on the costs to the Interstate Commerce Commission arising from motor carrier regulation.

By contrast, one aspect of the cost of regulation that has received comparatively little attention in the literature is the direct cost imposed on carriers, shippers, and government agencies by the regulatory processes. Such costs are real, and yet they are hidden from the broader types of research initiatives suggested above. For example, with inverse elasticity marginal cost pricing, the direct costs of regulation, which are insensitive to short-run changes in output, do not form part of the charged rates. Thus they are excluded from estimates of the costs of regulation.

These direct costs must be estimated separately, and one approach to that estimation is the subject of this paper. A case study approach to the problem has been adopted by focusing on a single Canadian jurisdiction--the province of New Brunswick. Nevertheless, with appropriate adjustments to account for institutional differences, the research methodology developed can be adapted without difficulty to any other jurisdiction.

In order to estimate the total costs of regulation to society, these direct costs must be incorporated into the other analyses. The total social costs of regulation would then be the sum of the deadweight welfare losses; the costs of the regulatory agency; and the direct costs of regulation to carriers, shippers, and other government agencies. Only the direct costs of regulation are addressed in this paper.

## REGULATORY AGENCY

Motor carrier regulation in the province of New Brunswick is carried out by the New Brunswick Motor Carrier Board. In both intraprovincial and extraprovincial trucking, regulation is limited to the control of entry into the industry. Although statutory authority does exist to permit the Motor Carrier Board to influence the rates charged by for-hire truckers, this power is not used. In practice, rates need only be filed with the Motor Carrier Board.

The entry process is initiated by the application of the potential entrant, who is required to give formal notice of his intentions to the public. This requirement is met by publishing a notice in the Royal Gazette. Publication must be made in two successive issues at least 21 days before a hearing. The hearing of all applications for operating authority, with the exception of those for furniture licenses where there are no objectors, is obligatory. The Board is not empowered to waive a hearing in any other instance. The hearings are quasi-judicial in nature.

The activities of the New Brunswick Motor Carrier Board for the study period are given in Table 1. The data reveal that the ratio of applications granted to applications made increased from 71 to 81 percent over the 3-year period. During this period there was only a modest increase in the number of objections filed. Based on this information, it appears that the entry control process in the study area is not greatly restrictive.

Hearings at which there are no objectors are informal in character. This is not the case where there are objectors. The issues addressed are the same as found elsewhere: service of existing carriers, extent of the market, and the financial ability of the potential entrant. From statements given to the Law Reform Commission, apparently larger firms tend to object "only if the application poses a definite threat. On the other hand, other firms may appear regularly with the intent of impressing on the Board the limited market" (2, p. 34). The Law Reform Commission views the role of

Table 1. Summary of Motor Carrier Board activities for selected fiscal years.

Activity	No. of Cases by Fiscal Year		
	1977-1978	1978-1979	1979-1980
Applications for new operating authority	214	230	241
Applications opposed	72	79	86
Applications granted	154	179	195
Other dispositions <sup>a</sup>	60	51	46
Temporary operating authorities granted	2,070	2,115	1,880

Notes: Data are from annual reports of the New Brunswick Motor Carrier Board for various years.

The ratios for applications granted per application received are as follows: 1977-1978 = 71 percent, 1978-1979 = 79 percent, and 1979-1980 = 81 percent.

<sup>a</sup>Other dispositions include denied, withdrawn, or set over to a later date.

the objector as extremely important in proceedings. It is of the opinion that "as the Board requires only limited filings and as the Board relies primarily on the evidence presented during the hearing, the objectors raise relevant arguments concerning the carrier's financial status, capacity and the necessity for the service" (2, p. 34).

Decisions of the Board appear to be rendered quickly. In most instances the decision is rendered either at the hearing where the application is presented or at the next Board meeting.

The purpose of this paper is to estimate the direct costs associated with the regulation of entry into the New Brunswick for-hire trucking industry. Only the general freight and specific carriers are considered in the analysis. Carriers of furniture are excluded.

#### RESEARCH METHODOLOGY

After a review of the literature on the subject revealed that little research on the specific topic had been completed, it was decided to adopt a case study approach to the problem. New Brunswick was selected as the study jurisdiction, and information concerning the regulatory activity of carriers and shippers was compiled for the period 1977-1978 through 1979-1980. Following the development of the survey methodology, a questionnaire was designed and pretested to ensure that the necessary information was available and could be collected with an acceptable level of reliability. The data were then collected, processed, and analyzed.

#### Survey Development

After discussions with both industry representatives and government authorities, it was determined that attention should be focused on four groups. The first was the for-hire truckers. Both private trucking and carriers of exempt commodities were excluded from the analysis. This decision was based on the fact that, because neither group requires operating authority, they are therefore not involved in the regulatory process. Shippers domiciled in the province of New Brunswick were also included in the analysis, as this group has a record of appearing before the Board on their own initiative. Consumer groups, however, were excluded, because they have not played a role (to date) in the regulatory process in the study area. The other groups included in the survey were the Motor Carrier Board and the Policy Division of the New Brunswick Department of Transportation. This latter division was included because it provides services to the Board and therefore incurs direct costs as a consequence of the existence of the regulatory process.

#### Questionnaire Design

Because of resource limitations the research was carried out through a mail questionnaire that solicited details of the various costs incurred by firms in connection with their appearances before the New Brunswick Motor Carrier Board. The initial questionnaires were pretested on a sample of shippers and carriers and then revised with the assistance of experienced staff of the carrier and shipper agencies. The revised questionnaires were then distributed to a sample of shippers and carriers.

#### Sample Size and Response

The shipper sample was drawn from the firms listed in the New Brunswick Manufacturers and Products Directory (3). Only firms that had 50 or more em-

ployees were included in the sample because past records indicated that smaller firms would have not had any dealings with the Motor Carrier Board. Questionnaires were sent to 183 firms drawn from this list. Of these, 18 percent were returned--a return ratio generally regarded as acceptable for this type of survey.

The carrier sample was based on information contained in the Atlantic Provinces Transportation Directory (4). This directory contains a complete listing of licenses issued by the motor carrier boards of the four Atlantic Provinces. In addition, it provides a complete listing of licenses by province broken down into general freight carriers and specific commodity carriers. All carriers of both types holding a license from the New Brunswick Motor Carrier Board were sampled. In total, 321 questionnaires were mailed to for-hire carriers. In both cases the return ratio was within the acceptable range based on the 100 percent sample population.

#### Data Processing and Analysis

Detailed analysis on the responses focused primarily on the direct costs of the regulatory process. Shipper and carrier views of the regulatory process were also considered.

It appears that the sample size and investigative technique were adequate. Both shipper and carrier responses were representative of those two groups.

#### DIRECT COSTS OF NEW BRUNSWICK MOTOR CARRIER REGULATION

The results of the analysis of the direct costs of motor carrier regulation in the province of New Brunswick are presented in this section. The focus is on the most costly aspect of the regulatory process, i.e., the direct costs incurred by the carriers themselves. The costs of seeking new operating authority and objecting to the grants of such authority are considered separately. Data are also presented separately for general freight carriers and specific commodity carriers. Attention is focused on the costs incurred by shippers in the regulatory process in those instances where they appear on their own initiative. Shipper costs, where they appear in the role of carrier witnesses, are included in carrier costs. Next, the direct costs incurred by the government in connection with motor carrier regulation are considered. Finally, the total costs of all participants are totaled.

#### Direct Regulatory Costs to Motor Carriers

The initial step in estimating the direct regulatory costs to motor carriers was to focus on the number of appearances before the Motor Carrier Board. Data on appearances for the study period are given in Table 2 and broken down by type of appearance and type of carrier.

The data in Table 2 indicate that specific commodity carriers accounted for the largest number of applications during the study period. These applications were for new operating authority and accounted for more than 80 percent of the applications in the 3-year period. By contrast, general freight carriers sought new operating authorities infrequently. The roles are reversed when oppositions to new licenses are involved. On balance, it appears that general freight carriers account for more than three-quarters of the objections to new licenses. Specific commodity carriers objected infrequently. Such a result is to be expected intuitively, because any grant of specific commodity authority would have adverse impacts on the general freight carriers.

Table 2. Carrier appearances before the Motor Carrier Board.

Carrier Type	No. of Carrier Appearances by Year		
	1977-1978	1978-1979	1979-1980
Applications for new operating authority			
General freight	6	7	7
Specific commodity	184	193	210
Furniture carriers	24	30	24
Total	214	230	241
Oppositions to new operating authority			
General freight	206	257	265
Specific commodity	27	20	26
Furniture carriers	54	40	52
Total <sup>a</sup>	288	316	344

Note: Data are from annual reports and other sources of the New Brunswick Motor Carrier Board.

<sup>a</sup>Columns may not add to total because of rounding.

Table 3. Direct carrier costs of New Brunswick motor carrier regulation.

Carrier Type	Direct Carrier Costs (\$) by Year		
	1977-1978	1978-1979	1979-1980
General freight carriers			
Seeking authority	2,868	5,131	6,202
In role of objector	128,544	131,327	218,095
Total	131,412	136,458	224,297
Specific commodity carriers			
Seeking authority	148,029	143,310	221,748
In role of objector	8,694	10,220	18,226
Total	156,723	153,530	239,974
Both types of carrier			
Seeking authority	150,897	148,441	227,950
In role of objector	137,238	141,547	236,321
Total	288,135	289,988	464,271

The second step in the analysis was to estimate the average cost per appearance by type of appearance and type of carrier for each year in the study period. The data for general freight carriers appearing before the Motor Carrier Board are given in the table below:

Fiscal Year	Avg Cost for General Freight Carriers (\$)	
	Seeking New Authority	In Role of Objector
	1977-1978	480
1978-1979	730	510
1979-1980	885	825

The data for specific commodity carriers appearing before the Motor Carrier Board are as follows:

Fiscal Year	Avg Cost for Specific Commodity Carriers (\$)	
	Seeking New Authority	In Role of Objector
	1977-1978	930
1978-1979	840	510
1979-1980	1,275	710

Data were collected on a variety of cost categories in the study, but in the interests of brevity only the total costs per appearance are presented. At the disaggregate level, the overwhelming proportion of the costs were related to legal fees and the costs of witnesses.

General freight motor carriers incurred costs of between \$480 and \$885/appearance before the New Brunswick Motor Carrier Board. The costs were higher for specific commodity carriers, ranging from \$930 to \$1,275. In the first year for which data were available, the objecting role was the more expensive element. It appears that the average appearance costs of both activities are increasing more rapidly than inflation; therefore, the real cost is rising.

A similar approach was used to assess the cost to specific commodity carriers. Carriers were asked to list their regulatory costs by type of cost for each year of the study period. These costs were then aggregated; the data are presented in the above in-text table. As in the previous case, the greatest proportion of the cost is accounted for by legal and witness costs. The data suggest that the specific commodity carriers spend considerably more money in seeking new authority than they do in objecting to other applications. As before, although a definitive statement is not possible, it does appear that the real cost per appearance for this category of motor carrier is increasing.

The direct cost to each type of carrier of the motor carrier regulatory process is found by combining the data in Table 2 with the data in the in-text tables on costs to general and specific commodity carriers. These direct cost estimates are given in Table 3. The results given in the table are predictable from the previous discussion. General freight carrier direct costs are mostly incurred in the role of objector. Specific commodity carrier costs are mostly incurred when seeking new operating authority. The latter group tends to incur more direct cost than the former, although over the study period the gap narrowed considerably. For the first 2 years of the study period the combined direct regulatory costs were virtually constant. They increased sharply in the final year. The data suggest that this was because of increased activity in seeking new authority on the part of the specific commodity group matched by increased opposition from the general freight carriers.

A study completed for the Economic Council of Canada in connection with the Regulation Reference by Bonsor (5) estimated the direct cost of regulation for each of the Canadian provinces for the year 1977-1978. By using a different methodology, this study estimated that in that year the New Brunswick direct costs were \$163,000, with lower and upper bounds of \$122,000 and \$240,000. The present study estimates that, for the same year, the direct regulatory costs were \$288,135. The present estimate is, then, about 20 percent above Bonsor's upper bound. A brief discussion of these disparate results is necessary.

First, the Bonsor estimate is based on the perceived costs of regulation on carriers as a percentage of their gross operating revenues. The resulting percentage is then multiplied by the Statistics Canada estimate of carrier revenue to obtain estimates of direct regulatory costs. (Note that Bonsor made an adjustment to total revenues by assuming that 15 percent of the published figure was accounted for by nonregulated movements. The current approach builds from average appearance costs from the carriers and the actual appearances before the Board.)

Second, the Economic Council study sampled only 40 firms in the Maritime Provinces, and received 12 responses from New Brunswick. The current investigation focused on carriers with New Brunswick operating rights, regardless of the location of their head office.

Table 4. Annual Motor Carrier Board revenue and expenditure.

Revenue and Expenditure	Annual Motor Carrier Board Expenses (\$)		
	1977-1978	1978-1979	1979-1980
Carrier plate for revenue	272,800	393,900	388,400
Expenditures			
Other acts	40,000	40,000	40,000
Motor carrier activities	137,300	143,300	154,600
Total	177,300	183,300	194,600
Excess of revenue	135,500	250,600	233,800

Note: Data were provided by the New Brunswick Motor Carrier Board.

Finally, the Council's study resulted in 8 of the 12 responses coming from class I carriers. The sample response in this study is more widely distributed and thus more representative of the industry. On balance, the current approach--building from the bottom with checks in the form of number of appearances as provided by the Motor Carrier Board--appears to be preferable. The Bonsor estimates understate the direct costs of motor carrier regulation in New Brunswick.

#### Direct Costs of Regulation to Shippers

Shippers become involved in the regulatory process in one of two ways: on behalf of a carrier applicant as an objector or in support of a carrier, or on their own initiative. Costs of the former activity are borne by the carrier in question because the shipper appears as the carrier's witness. These costs are therefore included in the estimates of carrier costs presented earlier. It is the cost of the latter activity, where the shipper appears on his own behest, that is of interest here. In this case, the shipper bears his own costs. Their inclusion in the analysis, therefore, does not involve any double counting of expenses.

Shipper direct costs of appearing before the New Brunswick Motor Carrier Board amounted to \$200/appearance in 1977-1978. These increased to \$250/appearance in the following year, and were the same in the final year of the study.

On the basis of the data available, shippers appear only infrequently on their own initiative. In 1977-1978, for example, New Brunswick shippers appeared on their own volition once in New Brunswick and five times elsewhere. The 1978-1979 data are identical with those of 1977-1978. In the final year of this study shippers appeared before the New Brunswick Motor Carrier Board on three occasions, and made five appearances elsewhere in Canada. Shipper activity in this role, although not substantial, does result in direct costs. These costs must be included in the direct costs of regulation. The shipper direct regulatory costs per appearance on their own initiative before the New Brunswick Motor Carrier Board were determined to be \$200 in 1977-1978, \$250 in 1978-1979, and \$750 in 1979-1980. Total shipper direct costs are minor when compared with total carrier costs.

Nevertheless, such costs must be included for an accurate estimate of the direct costs of regulation. The fact that they are small in the case of this jurisdiction does not mean that they can be generalized.

#### Direct Costs of Regulation to Government

The final aspect of direct costs considered was the cost incurred by the government in maintaining regulation. Two aspects of these costs were identified. The first cost incurred by government depart-

ments was in the provision of services to the regulatory agency. The other component is the direct cost of operating the regulatory body.

With respect to the former item, there are a variety of costs that exist. Among them are the costs of enforcing the Motor Carrier Regulations, including the prosecution of violations. It has not been possible, due to the reliability of the data base, to make these cost separations. One service provided to the Board that could be readily identified and cost related to the Policy Division of the New Brunswick Department of Transportation is the maintenance of several computerized files for use by the Board. Information provided by that government branch indicated that the annual cost of providing this information was on the order of \$1,200. This amount must be added to the other direct costs estimated above.

The final cost element identified was the costs of operating the New Brunswick Motor Carrier Board itself. A summary of the direct costs associated with maintaining the regulating agency is given in Table 4.

The data in Table 4 reveal not only the direct cost of operating the Motor Carrier Board but also the subsidy to other activities of government implicit in the fact that the Board was in a surplus position in all 3 years of the study period. There is some question as to whether the direct costs of operating the Board or the carrier plate fee revenue should be the relevant cost incorporated into the analysis. On balance, it appears best to employ the latter, for this is the escapable cost. It is escapable in the sense that this is the cost burden that would be removed from carriers should a decision be made to move to a deregulated environment. For the initial year of the study, the direct costs of this component were \$272,800. The total increased substantially to \$393,900 in the following year because of an increase in plate fees. In the final year of the study this cost component amounted to \$388,405.

#### Total Direct Costs of Regulation

The total direct costs of regulation are the sum of the cost elements discussed. That is, total direct cost of regulation comprises the direct regulatory costs of motor carriers, shippers, and the two government sectors. These costs are given in summary form in the table below:

Group	Total Direct Regulatory Costs (\$) for New Brunswick by Year		
	1977-1978	1978-1979	1979-1980
Motor carriers	288,135	289,990	464,270
Shippers	200	250	750
Government	274,025	395,110	389,625
Total	562,360	685,350	854,645

During the study period the total direct cost of the regulatory structure in New Brunswick rose from \$562,000 to about \$855,000, an increase of 7 percent. In the aggregate, however, they remain relatively small. In the first year of the study, for example, these direct costs of regulation amounted to less than one-half of 1 percent of the revenues earned by for-hire truckers in New Brunswick.

#### SUMMARY AND CONCLUSIONS

A frequently neglected aspect of the costs of regulation--the direct costs of maintaining the regulatory structure--was examined in this paper. A case study approach to the problem was adopted, and the Canadian province of New Brunswick was chosen as

the jurisdiction of investigation. Entry into the motor carrier industry in New Brunswick is controlled, although rates are not. The relevant costs are those associated with entry control. Both a survey and a questionnaire were developed, pre-tested, and sent to a sample of shippers and carriers.

The study revealed that the two types of carriers have differing roles in the regulatory process. The specific commodity carriers are generally concerned with acquiring new operating authority, whereas general freight carriers are mainly involved in objecting to new applications. Costs for each type of carrier for each type of activity were developed. Overall, costs ranged from \$288,000 to \$464,000 during the study period. These are higher than one other available estimate for this Canadian jurisdiction, but the approach taken in this study, being disaggregated in nature, provides more accurate cost estimates.

The study also revealed that, in New Brunswick, the shipper plays only a minor role when acting on his own behalf. The shipper more often appears in support of a carrier. Costs to the government due to this process are more than offset by motor carrier plate fee revenues; therefore, carriers are, in effect, carrying more than the entire public cost burden of the regulation.

Total direct costs of maintaining the regulatory structure in New Brunswick ranged from \$562,000 to

\$855,000 during the study period. In the aggregate, this total cost amounts to less than one-half of 1 percent of revenues earned by for-hire truckers in the jurisdiction.

#### REFERENCES

1. J. Felton. The Costs and Benefits of Motor Truck Regulation. *Quarterly Review of Economics and Business*, Vol. 18, No. 2, 1978, pp. 7-20.
2. The Motor Carrier Board. Law Reform Commission, New Brunswick Department of Justice, Fredericton, New Brunswick, Canada, 1979.
3. New Brunswick Manufacturers and Products Directory. New Brunswick Department of Commerce and Development, Fredericton, New Brunswick, Canada, 1980.
4. Atlantic Provinces Transportation Directory. Atlantic Provinces Transportation Commission, Moncton, New Brunswick, Canada, 1979.
5. N.C. Bonsor. The Impact of Regulation on For-Hire Highway Carriers. *In Regulation Reference--Volume II: Studies in Trucking Regulation*, Economic Council of Canada, Ottawa, Ontario, Canada, 1980.

*Publication of this paper sponsored by Committee on Surface Freight Transport Regulation.*