9

SECOND INTERNATIONAL SYMPOSIUM ON
HEAVY VEHICLE WEIGHTS AND DIMENSIONS

THE ECONOMICS OF TRUCK SIZES AND WEIGHTS IN CANADA

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1. BACKGROUND AND OBJECTIVES

In 1986/87 the Roads and Transportation Association of Canada (RTAC), together with the Canadian Conference of Motor Transport Administrators (CCMTA) was considering proposing changes in the regulations concerning truck weights and dimensions in order to harmonize these regulations across Canada. Since interprovincial truck movements are restricted in each aspect of allowable weights and dimensions by the most restrictive province through which they operate, greater harmonization would likely result in the operation of somewhat heavier and/or larger vehicles. The study reported on in this paper was commissioned by RTAC to examine the potential trade-offs between the economic benefits that might be achieved by the trucking industry and shippers through harmonization of the regulations and any increased road and bridge costs. In addition the study was to examine potential impacts on shippers, carriers and other modes.

The study was undertaken by a project team made up of staff members from IBI Group and ADI Limited. Since vehicle weights and dimensions are legislated by each of the provinces and territories in Canada, we reported to a Steering Committee made up of representatives of the ten provinces and two territories as well as Transport Canada.

The study goal was:

> "To provide an evaluation of the economic implications of changes in the allowable weights, sizes and configurations of heavy trucks, including economic costs and benefits relating to both the highway and bridge infrastructure and impacts on truckers, shippers, other highway users and the general economy."

This paper presents the major findings concerning the estimated impacts of changes in vehicle configuration regulations with respect to:

- o trucking productivity benefits;
- o road and bridge costs;
- o impacts on railway traffic;
- o carrier and shipper response.

Each of these sets of impacts is affected by the nature and extent of possible increases in truck sizes and weights across the ten provinces.

2. METHODOLOGY

Exhibit 1 shows the 1987 truck size and weight limitations in effect in Canada by province and territory. In order to expand the knowledge available on the potential impacts of harmonizing these standards, the study Steering Committee proposed four scenarios of harmonization. These scenarios are summarized on Exhibit 2. In most cases these scenarios were designed so as to be the new minimum regulations; in other words any jurisdiction that had a regulatory limit below these figures would be expected to increase its limit to the new standard. In jurisdictions where the existing standards were already higher than the proposed harmonized standards, it was generally assumed that there would be no rollbacks (i.e. reductions of limits) to the possible national standards within each scenario but that those provinces with more liberal standards would continue to exceed the new national norms or minimums.

Evaluation Network

The costs and benefits of these changes in regulations were estimated on the basis of a particular highway network. The network chosen included basically all primary and secondary highways as defined in the Transport Canada study "A Profile of the Canadian Highway System - 1981". This network is shown on Exhibit 3.

EXI 1

SUMMARY OF 1987 KEY TRUCK SIZE AND WEIGHT LIMITS IN CANADA

	NEWFOUNDLAND	NOVA SCOTIA	NEW BRUNSWICK	P.E.I.	QUEBEC	ONTARIO	MANITOBA	SASKATCHEWAN	ALBERTA	B.C.	YUKON	N.W.T.
Maximum Overall Combination Length[1] (m)	21.0	21.0	21.0	21.0	23.0	23.0	23.0	23.0	23.0	23.0	22.5	24.4
Maximum Semi-Trailer Length (m)	14.65	14.65	14.65	none	15.5	14.65	none	14.6	none	14.65	13.5	none
Maximum Width (m)	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	3.05
Maximum Height (m)	4.15	4.15	4.12	4.5	4.15	4.15	4.15	4.15	4.15	4.15	4.2	4.2
Maximum Single Axle Load[2,3] (tonnes)	9.0	9.0	9.0	9.0	10.0	10.0	9.1	9.1	9.1	9.1	10.0	8.13
Maximum Tandem Axle Load[3] (tonnes)	18.0	18.0	18.0	18.0	20.0	19.1	16.0	16.0	16.8	17.0	19.1	16.26
Maximum Tridem Axle Load[3] (tonnes)	27.0	27.0	27.0	27.0	30.0	28.6	16.0	16.0	16.8	17.0	28.6	16.26
Maximum GCW[3] (tonnes)												
5-axle tractor/semi (3-S2)	39.5	39.5	39.5	39.7	48.5	47.2	37.5	37.5	39.0	39.5	43.2	36.6
6-axle tractor/semi (3-S3)	48.5	48.5	48.5	48.7	54.5	52.5	37.5	37.5	39.0	39.5	52.7	36.6
7-axle A-train (3-S2-2)	52.5	50.0	N/A	N/A	57.5	63.3	55.7	53.5	53.5	57.7	N/A	54.0
7-axle B-train (3-S2-S2)	52.5	50.0	56.5	N/A	57.5	62.8	53.5	53.5	53.5	56.5	63.3	54.0
8-axle A-train (3-S2-3)	52.5	50.0	N/A	N/A	57.5	63.5	56.5	53.5	53.5	63.5	N/A	54.0
8-axle B-train (3-S3-S2)	52.5	50.0	N/A	N/A	57.5	63.5	53.5	53.5	53.5	63.5	63.3	54.0

none - no specific restriction applies
N/A - not allowed except under special permit

1. Subject in most provinces to a further restriction on the maximum distance from the king pin to the rear of the combination (often 16.75 m maximum)
2. Except on steering axle
3. Subject to various regulations governing axles spacing and spreads in each province

SOURCES: - Nix, F.P., A. Clayton and B. Bisson, A Study of Vehicle Weight and Dimension Regulations and Canada's Trucking Industry, Background Paper #1: Analysis of Canada's Vehicle Weight and Dimension Regulations, October 1985.
- Provincial highway departments

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EXHIBIT 2

SUMMARY OF SCENARIOS EVALUATED

	SCENARIO A	SCENARIO B	SCENARIO C	SCENARIO D
Maximum GCW (kg)	56,500	63,500	63,500	62,500
GCW Cap (kg)				
Tractor/Semi	46,500	46,500	46,500	46,500
A-Train	53,500	53,500	53,500	53,500
B-Train	56,500	63,500	63,500	62,500
C-Train	53,500	53,500	53,500	53,500
Maximum Overall Length (m)	23	23	25	25
Maximum Trailer Lengths (m)				
Semi-Trailer in Tractor/Semi	18.7	16.8	18.7	16.2
Full/Semi Trailers in Double Trailer Combination	19.0 (combined trailer lengths) 9.5 x 2 for twins	19.0 (combined trailer lengths) 9.5 x 2 for twins	20.8 (combined trailer lengths) 10.4 x 2 for twins	For A/C-trains: 17.2 (combined trailer lengths) 8.6 x 2 for twins For B-trains: 19.0 (combined trailer lengths) 9.5 x 2 for twins

MAXIMUM AXLE LOADS FOR ALL SCENARIOS

CONFIGURATION	STEER AXLE	SINGLE	TANDEM (kg)	TRIDEM
A-Train	5,500	9,100	16,000 (17,000-Scen.D)*	N/A
B-Train	5,500	9,100	17,000	17,000 - Scenario A 24,000 - Scenarios B & C 23,000 - Scenario D
C-Train	5,500	9,100	16,000 (17,000-Scen.D)*	N/A
Tractor/Semi	5,500	9,100	18,000 (17,000-Scen.D)	24,000

N/A - not allowed
* - maximum sum of axle loads on second trailer is 16,000 kg

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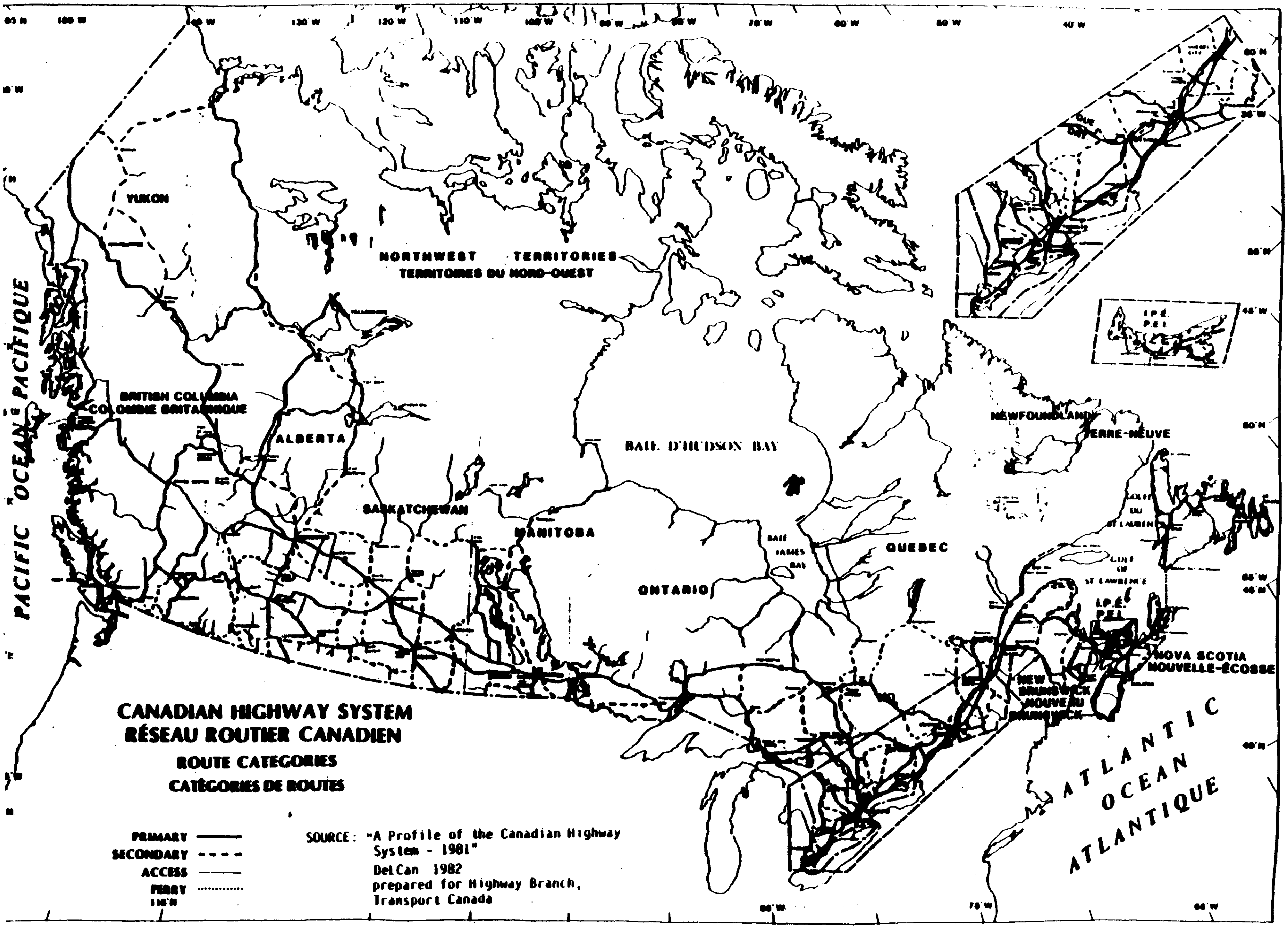
EXHIBIT 3: THE CANADIAN HIGHWAY SYSTEM



Estimation Methodology

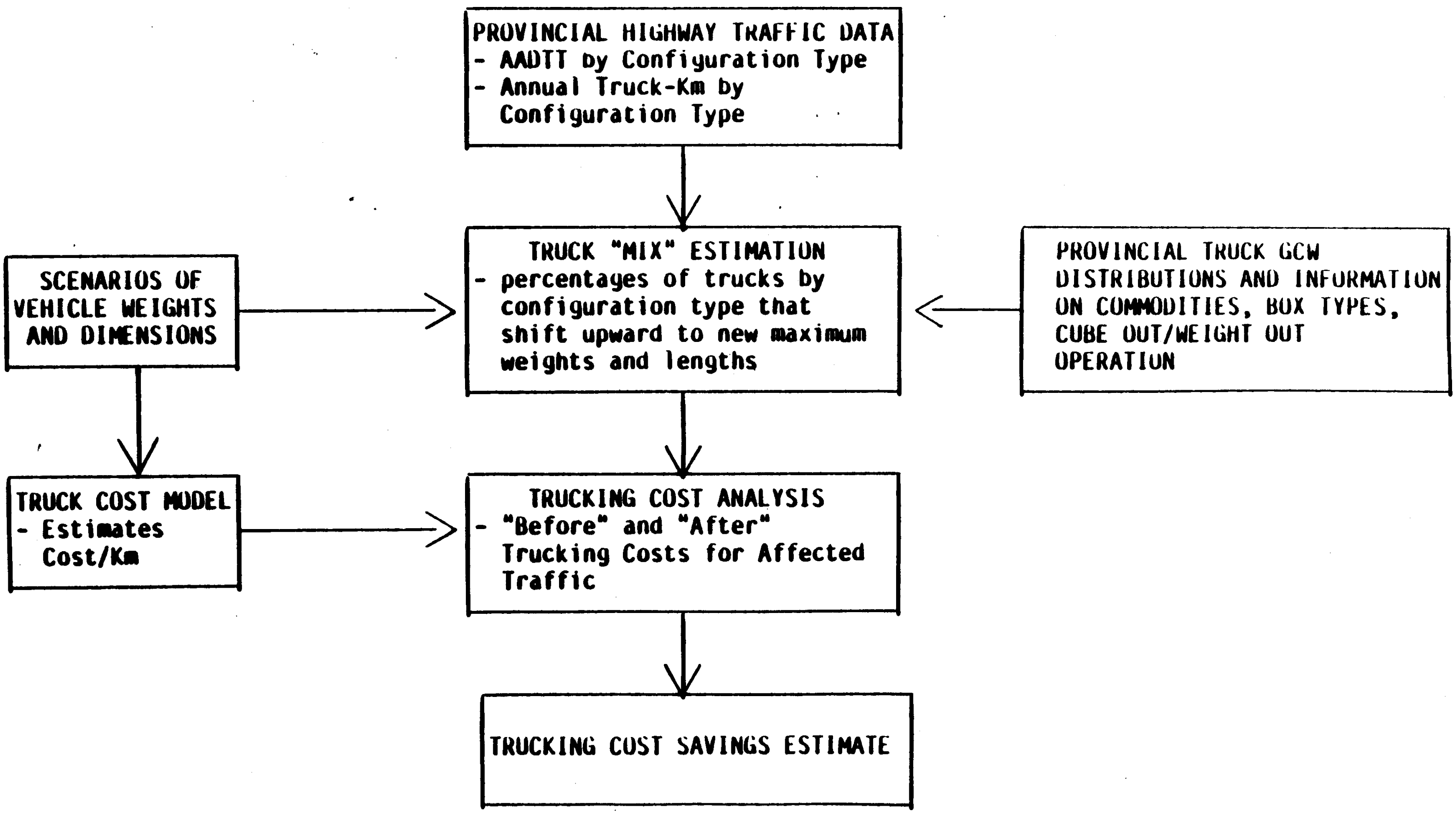
Trucking productivity benefits in each province under each scenario were estimated using a simplified methodology which could be applied consistently for all provinces. Exhibit 4 shows the overall process for estimating trucking productivity impacts.

The methodology involved using highway traffic data supplied by the provincial highway departments to determine average annual daily truck traffic (AADTT) for different truck configurations for a set of sample sections on the study road network. This data was used to estimate the annual truck-kilometres of travel in each province made by tractor/semi, A- and C-train, and B-train configurations.

The next step was to estimate the change in the mix of truck weights and lengths that would result under the changed weights and dimensions limits envisioned under each of the scenarios. This was done by assuming that trucks now operating at gross combination weights (GCW's) near existing maximum levels would shift upward to the new maximum GCW's and that low-density commodities (such as general freight) moving in standard van trailers would take advantage of the increased allowable trailer lengths. The IBI Truck Cost Model was used to calculate trucking costs per kilometre for maximum size and weight trucks of various configurations under the current regulations and under each of the scenarios. These unit costs were applied to the estimated truck traffic levels with and without the new regulations to obtain "before and after" trucking costs for the affected traffic and the difference between these costs was the estimated trucking cost savings available under each scenario.

EXHIBIT 4

FLOW DIAGRAM FOR TRUCKING PRODUCTIVITY IMPACT METHODOLOGY



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Road and Bridge Costs

Four types of road costs were investigated in this study as shown on Exhibit 5. These included: pavement rehabilitation costs associated with accelerated roadway surface wear; costs to strengthen bridges to maintain existing service life; costs associated with possible geometric improvements required to accommodate larger trucks, such as wider lanes, increased turning radii, and climbing lanes; and user costs - increased vehicle operating and travel time costs that could arise due to accelerated roadway deterioration. Road surfacing costs were estimated using the EASI pavement costing model developed by ADI Limited. This model was used to estimate pavement performance under the different traffic loadings projected to arise from the scenarios (and taking into account environmental effects) and to determine the resulting differences in resurfacing dates and the associated costs ("build sooner" costs) for the sample highway sections. These cost results were then scaled up to obtain estimated road surfacing costs in each province and for Canada as a whole.

Bridge strengthening costs were estimated using an overstress analysis. The maximum stresses induced in the main bridge girders by the proposed vehicles were compared with the maximum stresses induced by the standard truck loading patterns for which the various bridge types were designed. In this manner, the span lengths and bridge types for which the critical vehicles under each scenario would generate stresses exceeding acceptable overstress factors for different bridge materials were estimated. Having identified the bridge types and span lengths for which unacceptable overstress would occur for different design standards, the bridge inventory files maintained by each province were reviewed for the study network to identify those bridges which would require replacement or rehabilitation to maintain an acceptable service life. The bridge costs associated with these remedial works were then determined assuming a cost of $1,000 per square meter of bridge area affected.

EXHIBIT 5

INCREASED ROAD COSTS POTENTIALLY ASSOCIATED WITH INCREASED WEIGHTS AND DIMENSIONS

1. GEOMETRIC RELATED IMPROVEMENTS

- RECONSTRUCTION OF SOME PARTICULAR HIGHWAY SECTIONS TO ACCOMMODATE LARGER TRUCKS;
- INCREASED TURNING RADII AT INTERSECTIONS;
- ADDITIONAL PASSING/CLIMBING LANES.

2. BRIDGE RELATED IMPROVEMENTS

- STRENGTHENING;
- POTENTIAL WIDENING FOR LARGER VEHICLES.

3. ACCELERATED PAVEMENT WEAR AND STRENGTHENING

- BUILD SOONER COSTS;
- STRENGTHENING TO DESIRED DESIGN LIFE.

4. COSTS TO OTHER USERS

- INCREASED VEHICLE OPERATING COSTS DUE TO ACCELERATED PAVEMENT WEAR (IF HIGHWAY STRENGTHENING DOES NOT OCCUR).

Potential costs associated with possible required geometric improvements were investigated by evaluating low speed and high speed off-tracking and swing-out characteristics of the longer vehicles envisioned under the scenarios against RTAC design standards. User costs were addressed by developing an equation relating average automobile and truck operating costs as a function of pavement surface condition and operating speed and assessing, based on the pavement costs analyses, the degree to which road surface conditions would be affected by the changed traffic mix under the scenarios.

It should be noted that costs and benefits were examined only for the defined network of primary and secondary highways. Traffic on tertiary roads or roads under municipal jurisdiction was not included in the analysis.

3. ECONOMIC IMPACT RESULTS

As shown on Exhibit 6, there are substantial productivity gains estimated for the trucking mode for each of the four scenarios of regulatory change. At the same time, the increased costs for maintenance and rehabilitation of roads and bridges are estimated to be relatively small (about 6-11% of truck cost savings). In particular, incremental road surfacing costs are estimated to be small but negative (i.e. a benefit) for Canada as a whole, since each scenario considered is estimated to result in reduced average equivalent single axle loads (ESAL's) applied to pavements per tonne of freight carried. Costs associated with the possible need for road geometric improvements, as well as user costs, are estimated to be negligible for the scenarios specified.

The results presented in Exhibit 6 occur partly because the four scenarios, while incorporating increased gross combination weights (GCW's) and trailer lengths, do not in general result in appreciably increased axle loadings nor in decreased vehicle off-tracking performance. As noted previously, in estimating costs and benefits, it was assumed that if

EXHIBIT 6

COMPARISON OF ESTIMATED TRUCK COST SAVINGS AND ROAD INFRASTRUCTURE COSTS

(Annual Amounts in $millions, 1985 dollars)

	NEWFOUNDLAND	P.E.I.	NOVA SCOTIA	NEW BRUNSWICK	QUEBEC	ONTARIO	MANITOBA	SASKATCHEWAN	ALBERTA	B.C.	NATIONAL TOTALS
SCENARIO A											
Truck Cost Savings	2.4	0.3	4.9	3.1	23.3	99.1	12.1	24.0-24.1	28.7-29.9	34.8	232.7-234.0
Bridge Costs	0.8	0.1	0.8	0.2	1.0	0.8	5.0	0.5	1.2	7.2	17.6
Road Surfacing Costs	0.5	-0.3	-0.1	0.0	0.0	0.0	0.4	-2.3	-0.8	0.1	-2.5
Sub-Total	1.3	-0.2	0.7	0.2	1.0	0.8	5.4	-1.8	0.4	7.3	15.1
NET BENEFITS	1.1	0.5	4.2	2.9	22.3	98.3	6.7	25.8-25.9	28.3-29.5	27.5	217.6-218.9
SCENARIO B											
Truck Cost Savings	1.6	0.2	3.2	2.1	11.6-12.4	77.9	10.4-10.8	21.9-22.1	28.7-31.1	31.6	189.2-193.0
Bridge Costs	1.0	0.1	0.8	0.2	1.3	1.5	5.7	1.4	2.2	8.4	22.6
Road Surfacing Costs	0.5	-0.3	-0.1	0.0	0.0	0.0	0.0	-2.2	-0.7	0.1	-2.7
Sub-Total	1.5	-0.2	0.7	0.2	1.3	1.5	5.7	-0.8	1.5	8.5	19.9
NET BENEFITS	0.1	0.4	2.5	1.9	10.3-11.1	76.4	4.7-5.1	22.7-22.9	22.7-22.9	23.1	169.3-173.1
SCENARIO C											
Truck Cost Savings	2.4	0.3	4.9	3.2	23.8-24.6	102.8	12.4-12.8	25.4-25.7	31.6-34.0	37.2	244.0-247.9
Bridge Costs	1.0	0.1	0.8	0.2	1.3	1.5	5.7	1.4	2.3	8.4	22.7
Road Surfacing Costs	0.5	-0.3	-0.1	0.0	0.0	0.0	0.1	-2.5	0.1	0.1	-2.1
Sub-Total	1.5	-0.2	0.7	0.2	1.3	1.5	5.8	-1.1	2.4	8.5	20.6
NET BENEFITS	0.9	0.5	4.2	3.0	22.5-23.3	101.3	6.6-7.0	26.5-26.8	29.2-31.6	28.7	223.4-227.3
SCENARIO D											
Truck Cost Savings	1.1	0.1	2.4	1.5	6.9-7.5	65.4	8.8-9.1	18.7-18.9	26.1-28.3	29.0	160.0-163.3
Bridge Costs	0.0	0.1	0.5	0.2	1.0	0.0	2.9	1.4	2.1	7.4	15.6
Road Surfacing Costs	0.5	-0.3	-0.1	0.0	0.0	0.0	0.0	-2.2	-0.7	0.1	-2.7
Sub-Total	0.5	-0.2	0.4	0.2	1.0	0.0	2.9	-0.8	1.4	7.5	12.9
NET BENEFITS	0.6	0.3	2.0	1.3	5.9-6.5	65.4	5.9-6.2	19.5-19.7	24.7-26.9	21.5	147.1-150.4

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regulations in any province currently allow longer or heavier trucks than envisioned in the harmonization scenario, the current more relaxed regulations would remain in effect in that province.

The result is that the overall annual net benefits expressed as trucking productivity benefits (reduced costs) less increased road and bridge costs, are projected as:

- Scenario A - about $218-$219 million;
- Scenario B - about $169-$173 million;
- Scenario C - about $223-$227 million;
- Scenario D - about $147-$150 million.

These annual benefits are expressed in 1985 dollars and represent the benefits expected to accrue once the trucking industry has fully adjusted its fleet and operations to the changed limits. This is expected to occur fully within about ten years of implementation of the regulations. The estimates are based on 1985 truck volumes and therefore may somewhat understate the future levels of benefits as volumes grow.

The net benefits estimated for Scenarios A and C are larger than those for Scenarios B and D, mainly because of the benefits of the longer semi-trailer lengths allowed in Scenarios A and C and the fact that, since the tractor/semi is currently the dominant type of combination truck operated in Canada, a large number of truckers would be able to take advantage of the trailer length increase in the various provinces.

These net benefits, expressed on an annual basis are quite substantial. It is necessary, however, that other economic and contingent impacts also be considered in weighing the consequences of changed truck size and weight regulations.

4. IMPACTS ON RAILWAYS

There is a substantial amount of railway traffic which is vulnerable to truck competition. If trucking costs and rates are reduced as a result of new regulations allowing greater truck productivity, some of this rail traffic will be diverted to the truck mode; in addition, railway revenues on other traffic which is retained will be lower because of reductions in rates necessary to remain competitive with the trucking mode. The railways have conducted analyses to estimate their potential losses in traffic and net revenue based on postulated reductions in trucking costs and rates provided by the study team, which reflect the likely situation if Scenario A, B, C or D were introduced.

The two major railways in Canada are members of the Roads and Transportation Association of Canada. As their interests would be affected by any changes in roads standards, they offered to assist in the study by estimating the potential impacts on their revenues.

The annual combined losses in net contribution (loss in revenues less any reduction in variable costs) are estimated by CP and CN as follows for each of the four scenarios:

Scenario A - about $108-$129 million.

Scenario B - about $125-$138 million.

Scenario C - about $172-$192 million.

Scenario D - about $122-$133 million.

While these estimates were provided by the railways, study team staff reviewed the methodology and results of this work and are of the opinion that the approaches taken by the railways were reasonable as a means of providing order-of-magnitude estimates of the diverted traffic and loss in net financial contribution. The losses in net contribution are the portion of the fixed costs of operating the railways which would no longer be covered by net operating revenues (revenues less variable costs). Thus these represent a loss to the railways but not necessarily an increase in the total resources required by society, since a substantial portion of the net contribution loss is a transfer to shippers in the form of lower rail rates on retained truck-competitive traffic.

It can also be seen that the estimated losses in net financial contribution by the railways are less than the estimated net benefits from increased trucking productivity taking into account increased road/bridge costs. If these losses were to be weighted equally with the productivity benefits, one could therefore argue that there would be an overall surplus of benefits if any of the four new regulatory scenarios were introduced.

It is also necessary, however, to consider possible broader impacts on the railways and their viability if traffic/revenue losses of this magnitude (estimated to be some 4-9% of total gross revenues) were felt. If this were to occur, for example, the railways have indicated that there would be a greater likelihood that additional capital plant (e.g. branch lines) might be abandoned (to the extent possible within regulations) and this in turn could have an impact on some communities and employment levels. On the other hand, the reduced trucking costs can be expected to improve competitiveness of Canadian goods in domestic and foreign markets, which should, in turn, produce overall increases in employment and foreign exchange earnings.

It is difficult to quantify these spin-off effects and, in accordance with the terms of reference, we did not attempt to do so in this study owing to the "softness" of the results and the difficulty of interpreting them. Rather, we presented the basic economic findings as noted in this and the preceding subsection, for the consideration of RTAC and the member Governments in assessing the potential changes if one of the four new regulatory scenarios were adopted.

5. IMPACTS ON CARRIERS AND SHIPPERS

As part of the study a number of carriers were interviewed to determine what their reaction might be to changes in the scenarios. Unfortunately at the time we could not mention the particular scenarios being investigated. Instead, we had to be more general and ask questions about how they would react to various general directions in the relaxation of standards.

The results of the carrier interviews (Exhibit 7) suggest that most truckers, and general freight truckers in particular, would be able to take advantage of the new regulatory scenarios, although there would be an adjustment period of some years before the full productivity gains and reductions in costs and rates would be experienced and passed on to shippers. To some extent, truckers operating in certain regions (such as the Prairie Provinces) could obtain greater productivity improvements over existing levels than in other regions (such as British Columbia, Ontario and Quebec) where current limits (in particular, for gross combination weights) are higher.

By and large, however, most highway carriers would be able to take advantage of the new regulations, shippers would benefit from lower rates, and both truckers and shippers would, therefore, be generally in favour of such relaxation of the weights and dimensions limits on trucks. There is an obvious benefit to truckers and shippers in harmonizing these limits across Canada to the extent possible, in terms of the increased efficiency of interprovincial trucking.

6. CONCLUSION

In summary, the economic assessment of relaxed weights and dimensions regulations allowing larger and heavier trucks concluded that there would be a net economic benefit from moving to any of the four scenarios of regulations studied, taking into account the decreased costs

EXHIBIT 7

LIKELY RESPONSE OF TRUCK FLEET TO SCENARIOS - SURVEYED CARRIERS

Questionnaire Scenario	Type of Carrier	Number Reporting Given Response			Total Responses
		No Change/Could Not Take Advantage	Would Change Fleet Immediately	Would Change Fleet Over Time as Existing Equipment Wears Out	
1 (increased combination length)	General Freight Bulk	2 7	0.5* 0	4.5* 1	7 8
2 (increased semitrailer and combination lengths)	General Freight Bulk	1 8	2 0	4 0	7 8
3 (increased GCW for B-trains to 63,500 kg.)	General Freight Bulk	5 5	2 0	1 3	8 8
4 (increased semi-trailer and combination lengths, increased GCW for B-trains to 63,500 kg.)	General Freight Bulk	1 4	1 0	6 4	8 8

* One carrier reported that it would immediately purchase some new equipment but would also replace existing equipment over time as it wears out.

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from more productive trucking operations, increased highway/bridge costs, losses to the railways and impacts on truckers and shippers. Decisions on whether or not to implement such regulations, of course, are made in the larger government and political arena of the provinces and the federal government and must take into account other factors and contingent impacts in addition to the basic economic impacts discussed in this report.

7. EPILOGUE

As might be expected with a complicated issue such as the permitted sizes of heavy trucks on our highways, there was a considerable amount of discussion within the political arena. In February, 1988 a Memorandum of Understanding (MOU) was endorsed by the Council of Ministers of Transportation and Highway Safety. This was essentially an agreement to implement the following "minimum" standards for truck weights and dimensions across the country:

- maximum overall combination length of 23m;
- maximum semi-trailer length of 14.65m;
- maximum single (non-steering) axle load of 9100 kg.;
- maximum tandem axle load of 17,000 kg.;
- maximum tridem axle load of 24,000 kg.;
- maximum tractor/semi weight (6 axles) of 46,500 kg.;
- maximum A-train and C-train weight of 53,500 kg.;
- maximum B-train weight of 62,500 kg.

Although the minimum standards are now essentially in place across Canada, important differences in the actual standards remain between provinces. With respect to lengths, the western provinces (British Columbia, Alberta, Saskatchewan and Manitoba) have gone beyond the lengths in the MOU to permit even longer truck combinations (25.0m compared to 23.0m in the MOU) and semi-trailers (16.2m versus 14.65m). Considering weights, Ontario, Quebec and the Atlantic Provinces have in general not rolled back their higher allowable axle weights (compared to the western provinces) which existed prior to the MOU and these continue to exceed those in the MOU. For example, the central and Atlantic provinces in most cases permit higher weights on tandem axles, tridem axles, and five-axle and six-axle tractor/semi combinations. On the other hand, the maximum gross combination weights of A-train and B-train double trailer combinations are now basically uniform across Canada (except in Ontario and Quebec where heavier A-trains are still permitted).

In practice most minimum values have been implemented. The current situation for vehicle weight and dimension limits in Canada is illustrated in Exhibit 8.

Further progress in harmonization is of course expected.

Exhibit 8

SUMMARY OF CURRENT KEY TRUCK SIZE AND WEIGHT LIMITS IN CANADA (JUNE, 1989)

	NEWFOUNDLAND	NOVA SCOTIA	NEW BRUNSWICK	P.E.I.	QUEBEC	ONTARIO	MANITOBA	SASKATCHEWAN	ALBERTA	B.C.	YUKON	N.W.T.
Maximum Overall Combination Length (m)	23.0	23.0	23.0	23.0	23.0	23.0	25.0	25.0	25.0	25.0	N/A	25.0
Maximum Semi-Trailer Length (m)	14.65	14.65	14.65	14.65	14.65	14.65	16.2	16.2	16.2	16.2	N/A	none
Maximum Width (m)	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	3.05
Maximum Height (m)	4.15	4.15	4.12	4.42	4.15	4.15	4.15	4.15	4.15	4.15	N/A	4.2
Maximum Single Axle Load [1] (tonnes)	9.1	9.5	9.1	9.1	10.0	10.0	9.1	9.1	9.1	9.1	10.0	9.1
Maximum Tandem Axle Load [2,3] (tonnes)	18.0	19.0	18.0	18.2	19.0	19.1	17.0	17.0	17.0	17.0	N/A	17.0
Maximum Tridem Axle Load [3] (tonnes)	27.0	28.5	25.0	27.3	25.0	24.4	24.0	24.0	24.0	24.0	N/A	24.0
Maximum GCW[3] (tonnes) 5-axle tractor/semi (3-S2)	40.5	42.0	40.5	40.7	49.5	47.2	39.5	39.5	39.5	39.5	N/A	39.5
6-axle tractor/semi (3-S3)	49.8	51.5	49.5	49.8	57.5	56.0	46.5	46.5	46.5	46.5	N/A	46.5
7-axle A-train (3-S2-2)	53.5	53.5	53.5	53.5	57.5	63.5	53.5	53.5	53.5	53.5	N/A	53.5
7-axle B-train (3-S2-S2)	58.5	62.5	58.5	56.5	62.5	63.5	56.5	56.5	56.5	56.5	N/A	56.5
8-axle A-train (3-S2-3)	53.5	53.5	53.5	53.5	57.5	63.5	53.5	53.5	53.5	53.5	N/A	53.5
8-axle B-train (3-S3-S2)	62.5	62.5	62.5	62.5	62.5	63.5	62.5	62.5	62.5	62.5	N/A	62.5

none - no specific restriction applies.

N/A - not available

1. Except on steering axle.

2. For non-tractor tandem

3. Subject to various regulations governing axle spacing and spreads in each province.

SOURCE: Roads and Transportation Association of Canada

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