



Peat Marwick Stevenson & Kellogg

Management Consultants



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Interim Report

***QUÉBEC/ONTARIO HIGH SPEED RAIL PROJECT
TRENDS IN INTERCITY PASSENGER TRANSPORTATION
AND GOVERNMENT SUPPORT***

Estimation of Modal Subsidies

Prepared for

Steering Committee
Québec-Ontario High Speed Rail Project

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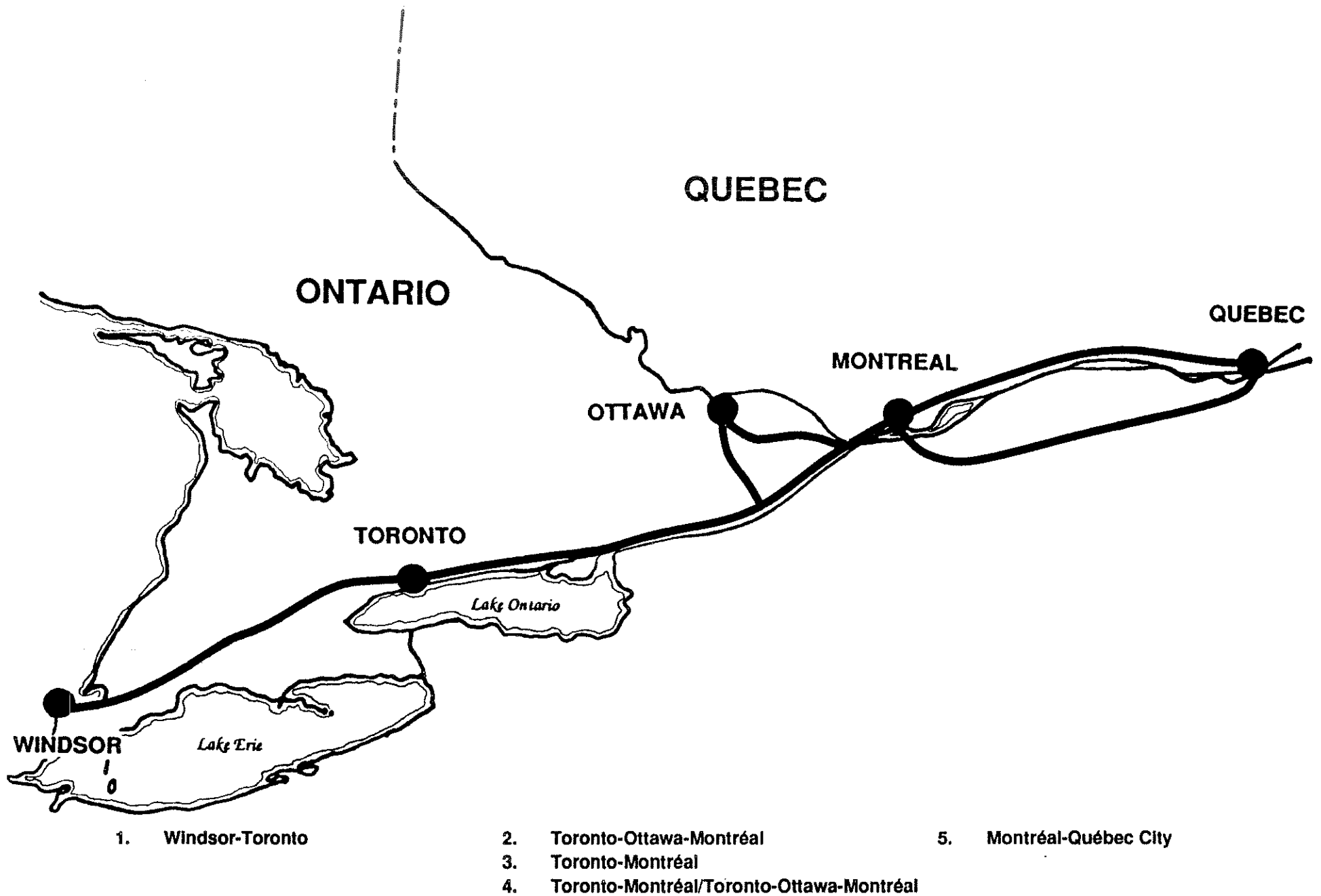
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Appendix A—Data Sources for Estimation of Modal Subsidies

Appendix B—Detailed Results of Estimation of Modal Subsidies

Exhibit 1—Modal Subsidy Corridor Segments



The Estimation of Modal Subsidies described in this document has been developed as a first step in the identification of government support that may be available for High Speed Rail in the Québec-Windsor Corridor. The information that is displayed shows, for each mode, the estimated costs borne by users, governments and society at large for transportation in the Corridor. In the case of governments, costs are incurred principally for the construction, operations and maintenance of infrastructure, and the provision of land. Revenues are collected from fuel taxes, registration and licence fees, landing fees at airports, etc. In addition, society at large bears the costs of pollution and accidents which are added to governments' net costs. The difference between the total of these non-user costs and revenues collected by governments is the "subsidy" to transportation.

A. Modal Subsidies in the Corridor

In Canada, various levels of government are involved in the provision of transportation infrastructure. The federal government provides the majority of air infrastructure, while provincial governments are responsible for the building of highways. Governments also collect a variety of taxes and levy charges on users of the transportation system. These take the form of fuel taxes, vehicle registration fees, etc.

Our analysis accounts for all such costs and revenues in the Québec City-Windsor Corridor for all modes of transportation. External costs of pollution and noise are also accounted for as they represent a cost imposed by users of transportation on society. Carrier costs are not included in this study except for those of VIA Rail, which receives a subsidy from the federal government. In essence, an attempt is made to account for what government spends on, and what it collects from various modes of transportation. Indirect effects such as those relating to the transportation equipment producing industry, and other industries dependent on transportation, are not included in the analysis. Costs of economic regulation are not included, and are assumed to form a part of government overhead.

Some costs and revenues are excluded due to lack of information and because they are insignificant. These include revenues from federal excise taxes on automotive air-conditioners and on large (heavy) automobiles. Fees paid by bus companies to provincial governments to obtain rights to operate are also excluded since they are of small order of magnitude, and in Ontario, payable only once.

Some data are utilized from the final report of the Royal Commission on National Passenger Transportation (referred to as Directions), however, the reliance on this report is kept to a minimum and is dictated by the availability of data from other sources. The data sources used during our analysis are shown in Appendix A.

1. Corridor Segments

Estimates have been made for car, bus, rail and air modes for several segments in the Québec-Windsor Corridor. As shown in Exhibit 1, the segments are:

Exhibit 2—Summary of Modal Subsidies (cents/pass.km.) (All figures rounded)

	CAR	BUS	RAIL	AIR
1. WINDSOR-TORONTO				
Users' Costs	4.74	0.59	0.54	7.89
Others' Costs				
-Federal government	-0.38	-0.06	25.03	2.92
-Ontario government	-0.01	-0.05	-0.09	-0.02
-Québec government				
-Society at large	0.76	0.25	1.29	1.32
Others' Net Costs (Subsidy)	0.37	0.14	26.22	4.22
TOTAL	5.11	0.74	26.76	12.11
2. TORONTO-OTTAWA-MONTREAL				
Users' Costs	4.79	0.56	0.48	7.98
Others' Costs				
-Federal government	-0.37	-0.04	16.24	5.45
-Ontario government	-0.38	-0.06	-0.06	-0.01
-Québec government	-0.30	-0.06	-0.03	-0.09
-Provincial gov'ts*	0.84	0.07		
-Society at large	0.75	0.20	1.01	1.37
Others' Net Costs (Subsidy)	0.53	0.11	17.16	6.73
TOTAL	5.32	0.67	17.64	14.70
3. TORONTO-MONTREAL				
Users' Costs	4.78	0.56	0.45	5.91
Others' Costs				
-Federal government	-0.37	-0.04	12.89	2.57
-Ontario government	-0.38	-0.06	-0.05	-0.01
-Québec government	-0.29	-0.06	-0.03	-0.07
-Provincial gov'ts*	0.88	0.07		
-Society at large	0.74	0.20	0.90	1.20
Others' Net Costs (Subsidy)	0.58	0.11	13.71	3.69
TOTAL	5.35	0.67	14.16	9.59
4. TORONTO-MONTREAL/ TORONTO-OTTAWA-MONTREAL				
Users' Costs	4.78	0.56	0.47	6.94
Others' Costs				
-Federal government	-0.37	-0.04	14.57	4.01
-Ontario government	-0.38	-0.06	-0.05	-0.01
-Québec government	-0.29	-0.06	-0.03	-0.08
-Provincial gov'ts*	0.85	0.07		
-Society at large	0.74	0.20	0.96	1.28
Others' Net Costs (Subsidy)	0.55	0.11	15.44	5.21
TOTAL	5.34	0.67	15.90	12.15
5. MONTREAL-QUEBEC CITY				
Users' Costs	4.89	0.61	0.63	11.14
Others' Costs				
-Federal government	-0.37	-0.06	22.25	2.30
-Ontario government				
-Québec government	-0.20	-0.08	-0.19	-0.31
-Society at large	0.73	0.26	1.31	1.35
Others' Net Costs (Subsidy)	0.17	0.12	23.37	3.34
TOTAL	5.06	0.73	24.00	14.48

* Costs of infrastructure, land and control not allocated between Ontario and Québec.

- ▶ Windsor-Toronto;
- ▶ Toronto-Ottawa-Montréal;
- ▶ Toronto-Montréal;
- ▶ Toronto-Montréal/Toronto-Ottawa-Montréal;
- ▶ Montréal-Québec City.

These segments cover the full length of the Corridor including the most direct Toronto-Montréal route, a segment definition that recognizes the High Speed Rail alignment through Ottawa, and an average of those two routes (Toronto-Montréal/Toronto-Ottawa-Montréal).

2. Modal Subsidies

Exhibit 2 summarizes for each mode the costs borne by “users” and “others” (governments and society at large) for each segment of the Corridor. The figures indicate the cents per passenger-kilometer of cost (positive figures) and revenue (negative figures) in each case. For example, for the car mode in the Toronto-Montréal segment, the net cost to “others”, which is the subsidy to “users”, is as follows:

- ▶ Car 0.58 cents per passenger-kilometer;
- ▶ Bus 0.11 cents per passenger-kilometer;
- ▶ Rail 13.71 cents per passenger-kilometer;
- ▶ Air 3.69 cents per passenger-kilometer.

Our analysis indicates the following ranking of the modes for all segments: bus users impose the least burden on others, followed by car, air and rail users. This ranking is similar to that obtained by the Royal Commission, although the latter also included vehicle carrier costs in its calculations.

For bus and rail modes, the subsidies are heaviest at the ends of the Corridor, where the traffic is lighter than between Toronto and Montréal. This is true for air also in the Toronto-Montréal segment where the subsidy to users is smaller (3.69 cents) than in the Windsor-Toronto segment (4.22 cents) and only marginally higher than in the Montréal-Québec City segment (3.34 cents). The lower value in the latter segment is due to a significantly higher provincial fuel tax compared with that in Ontario. Relatively heavier road and air infrastructure and related costs in the Toronto-Ottawa-Montréal segment appear to create a larger burden on governments and result in higher subsidies to the car and air user in the central segment of the Corridor. A detailed presentation of costs incurred and revenues collected for each segment of the Corridor is included in Appendix B.

B. Methodology

1. Fuel Tax Attributable to Transportation

Data on fuel prices and tax rates were provided by Energy, Mines and Resources Canada. Based on this information, a fuel tax rate (in % terms) is derived for each month in 1991, for each mode, for Ontario and Québec. The general provincial sales tax rate and GST are subtracted from the fuel tax rate in order to derive the portion of the fuel tax directly attributable to transportation. General sales taxes are applicable to all goods (and in some instances, services) and are therefore not considered to be "transportation taxes". The relevant tax rate in 1991 is the average of twelve months. As such, this tax has two components, a federal excise component and a provincial component. The federal component applies to all routes; the Ontario tax is assumed to apply to the Windsor-Toronto route, while the Québec tax is assumed to apply to the Montréal-Québec City route.

For Toronto-Ottawa-Montréal and Toronto-Montréal routes, a weighted Ontario and Québec tax rate is used, and therefore the revenues from this route are shared between the two provinces. The weights are the respective provincial shares in the total fuel used by the various modes in the two provinces. For example, 64% of the total gasoline sales (on which tax was paid at road use rates) in Ontario and Québec were accounted for by Ontario. Thus, this would be Ontario's share in fuel tax revenues (on a per passenger-kilometre basis) on the Toronto-Montréal route for the car mode.

2. Accident Costs

Accident costs for all modes are used as reported in Directions. The estimates reported therein are based on a careful survey of the existing information, which in many cases is fairly sparse. Abt Associates is currently conducting a study on the social costs of automobile crashes in Ontario. Interim results indicate that the social costs of automobile crashes may be at least twice as high as those reported in Directions.

3. Environmental Costs

Emissions of carbon-dioxide, oxides of nitrogen, and volatile organic compounds in grams per megajoules of energy are obtained from Directions (these are used in Directions as reported in a Research Report prepared by VHB Consulting). Estimates of megajoules per litre for all modes are also obtained from Directions and are based on system-wide fuel consumption in all modes of transportation. Conversion of this information into grams of emissions per passenger-kilometre is based on route and mode-specific fuel use and occupancy data, and is discussed below. Environmental charges in \$/Kg. are obtained from Directions. The assumption in Directions that emissions of oxides of nitrogen and volatile organic

compounds are only relevant in summer months is also retained here. Due to the absence of other reliable sources, the methodology is very similar to that employed in Directions, however, the final results are different due to use of fuel use data from other sources.

4. Trip Distances

Trip distances were provided by Consumer Contact. These are used for all but the Toronto-Montréal route. Distances for this route are from Directions.

5. Car

a) Infrastructure

Highway operating and maintenance costs were calculated by Nix et. al. for The Royal Commission on National Passenger Transportation (Commission), by vehicle and by type of highway. Common costs were allocated based on vehicle-kilometres by vehicle class. This allocation was refined by the Commission staff, and replaced by one based on passenger car equivalents (PCE's). Allocation on the basis of PCE's is superior since it attributes common costs on the basis of axle loads. Since highway deterioration is directly related to axle loadings, an allocation based on PCE's ensures that heavy vehicles bear a larger proportion of common costs. A cost of capital figure was added to the estimates developed by Nix on the basis of capital stock estimates developed by Lall. Thus, infrastructure costs (excluding land) on a per vehicle-kilometre basis for cars and buses travelling on expressways are used as reported in Directions. Route-specific costs on a per passenger-kilometre basis are derived using occupancy data provided by Consumer Contact.

b) Land

For Toronto-Montréal, land costs per passenger-trip are reported in Directions. These costs are also assumed to hold for the Toronto-Ottawa-Montréal route. Trip distance data are used to derive costs on a per passenger-kilometre basis. For all other routes, system average land costs as reported in Directions are used. System average costs are available on a per passenger-kilometre basis.

c) Environment

The derivation of pollutants in grams per litre was discussed above. Cars are assumed to have an average fuel consumption of 9 litres per 100 kilometres. These data, along with route-specific occupancy and distance data, were used to derive emissions in grams per passenger-kilometre. The dollar price of emissions was discussed earlier.

d) Fuel Taxes

Derivation of the transportation component of the fuel tax in cents per litre was discussed earlier. Fuel use and occupancy data are used to derive fuel consumption on a per passenger-kilometre basis. Combining the fuel tax and fuel consumption yields an estimate in cents per passenger kilometre.

e) Vehicle Registration

Annual registration fees for cars (on a per car basis) were provided by provincial governments. It is assumed that the average annual car utilization is 17,500 kilometres. This allows derivation of a charge on a per vehicle-kilometre basis, which is converted to a passenger-kilometre basis using route-specific occupancy data.

The total costs to provincial governments of issuing such permits were provided by provincial governments. Based on the number of registered vehicles, a cost per vehicle is calculated. This is assumed to hold for both cars and buses, that is, it is assumed that there is no difference in the administrative costs of issuing a car or a bus permit. The cost per vehicle is converted to a passenger-kilometre basis using the method employed for vehicle registration fees discussed in the preceding paragraph.

Data from Ontario are used on the Windsor-Toronto route, while those from Québec are used on the Montréal-Québec City route. For the other routes, a weighted average cost and revenue is derived on a per passenger-kilometre basis. The weights are the respective provincial shares in the total number of cars registered in Ontario and Québec. In this manner, both revenues and costs are split between provinces.

f) Driver's Licences

Total revenues from, and costs of issuing driver's licences were provided by provincial governments. Data on the total number of licences issued are available from Statistics Canada. This allows the derivation of an average cost and revenue per licence issued. It is assumed that there is one driver per vehicle. This yields an average revenue and average cost per vehicle which is assumed to hold for both cars and buses. Derivation of costs and revenues on a per passenger-kilometre basis is similar to that used for vehicle registrations, that is, data on annual utilization and occupancy are used.

As with vehicle registration costs and revenues, data from Ontario are used on the Windsor-Toronto route, while those from Québec are used on the Montréal-Québec City route. For the Toronto-Montréal and Toronto-Ottawa-Montréal routes, a weighted average cost and revenue is derived on a per passenger-kilometre basis. The weights are the respective provincial shares in

the total number of driver's licences issued in Ontario and Québec. In this manner, both revenues and costs are split between provinces.

g) Ontario Tire Tax

Total revenues collected over a three and a half year period since June 1989 are available from the Globe and Mail. In deriving revenues for the year 1991, it is assumed that the revenues are uniformly distributed over the three and a half year period. The annual revenues are divided by \$5 (tax per tire). This yields a number that is very similar to the number of registered road vehicles in Ontario in the year 1991. Thus it is assumed that the tax per vehicle (cars and buses) is \$5. This is converted to a per passenger-kilometre basis using annual utilization and occupancy for cars and buses.

Since this tax is levied by the Ontario government, it is only relevant for the Windsor-Toronto, Toronto-Montréal and Toronto-Ottawa-Montréal routes.

h) Control

This is defined to include costs and revenues of policing the highways and enforcing Highway Traffic Act regulations, and other safety programs. Unfortunately, no information was available from provincial governments and police forces. The total budget of the OPP was available for the year 1991. Further, revenues from Highway Traffic Act fines were provided by the office of the Attorney General of Ontario. Haritos estimates the costs of policing and enforcement in Ontario on a per-vehicle basis for the year 1969. The implicit Gross National Expenditure (GNE) deflator is used to inflate this to 1991 dollars. A total dollar figure for Ontario is derived by using the total number of registered vehicles in Ontario. This yields a figure that is approximately 40% of the annual budget of the OPP. Since provincial governments spend resources on promoting road safety, and reliable estimates of these expenses are unavailable, it is assumed that 50% of the OPP budget is the cost of control in Ontario. A net control cost is derived by subtracting the revenues collected from highway fines. This yields an approximate net cost of \$20 per vehicle in Ontario. This cost is assumed to hold for all cars and buses in Ontario and Québec. It is converted to a per passenger-kilometre basis using annual utilization and occupancy data.

6. Bus

a) Infrastructure

This was discussed above under Car - Infrastructure. Occupancy data are available from bus carriers operating the Windsor-Toronto and Montréal-Québec City routes. Since carriers did not provide information for the other routes, bus occupancies were taken from Directions. The calculations assume

that occupancies are the same on Toronto-Montréal and Toronto-Ottawa-Montréal routes.

b) Land

System average land costs on a per passenger-kilometre basis as reported in Directions are used for all routes.

c) Environment

The derivation of pollutants in grams per litre was discussed above. These estimates combined with occupancy, distance, and fuel use data yield emissions in grams per passenger-kilometre. Fuel use data for Windsor-Toronto and Montréal-Québec City were provided by carriers. For the other routes, estimates provided in Directions are used. The valuation of emissions was discussed above.

d) Fuel Taxes

Derivation of the transportation component of the fuel tax in cents per litre was discussed earlier. Fuel use and occupancy data are used to derive fuel consumption on a per passenger-kilometre basis. Combining the fuel tax and fuel consumption yields an estimate in cents per passenger-kilometre.

e) Vehicle Registration

Annual registration fees for buses (on a per bus basis) were obtained from tables provided by provincial governments. It is assumed that the gross vehicle weight of a bus is 10,000 kg., and data from carriers indicates an annual utilization of 200,000 kilometres. This allows derivation of a charge on a per vehicle-kilometre basis, which is converted to a passenger-kilometre basis using route-specific occupancy data.

The total costs to provincial governments of issuing such permits were provided by provincial governments. Based on the number of registered vehicles, a cost per vehicle is calculated. This is assumed to hold for both cars and buses, that is, it is assumed that there is no difference in the administrative costs of issuing a car or a bus permit. The cost per vehicle is converted to a passenger-kilometre basis using the method employed for vehicle registration fees discussed in the preceding paragraph.

Data from Ontario are used on the Windsor-Toronto route, while those from Québec are used on the Montréal-Québec City route. For the other routes, a weighted average cost and revenue is derived on a per passenger-kilometre basis. The weights are the respective provincial shares in the total number of buses registered in Ontario and Québec. In this manner, both revenues and costs are split between provinces.

f) Driver's Licences

The derivation of average revenues and costs on a per-vehicle basis was discussed earlier in the context of Cars - Driver's Licences. Bus utilization and occupancy data are used to convert these figures to a per passenger-kilometre basis. The distribution of revenues and costs between Ontario and Québec for the Toronto-Montréal and Toronto-Ottawa-Montréal routes was accomplished in a manner identical to that used for cars.

g) Ontario Tire Tax

This was discussed above in the context of Cars - Ontario Tire Tax.

h) Control

This was discussed above in the context of Cars - Control.

7. Rail

a) Infrastructure/Carrier

Information on total annual subsidy by route was provided by VIA Rail. VIA did not provide information on the total number of passenger-kilometres of travel by route. However, estimates were developed on the basis of other information furnished by VIA such as the average number of cars per train and average occupancy per car. The estimates of passenger-kilometres are comparable in magnitude to those reported for 1989 in Directions, Vol. 4, pp. 1310-1311.

b) Environment

The derivation of pollutants in grams per litre was discussed above. These estimates combined with occupancy, distance, and fuel use data yield emissions in grams per passenger-kilometre. Fuel use data for all routes was derived from data provided by VIA Rail.

c) Fuel Taxes

Derivation of the transportation component of the fuel tax in cents per litre was discussed earlier. Fuel use and occupancy data are used to derive fuel consumption on a per passenger-kilometre basis. Combining the fuel tax and fuel consumption yields an estimate in cents per passenger-kilometre.

8. Air

a) Airports

Total costs and cost recovery (on a per enplaned/deplaned passenger basis) for various airports are available from a study conducted by Sypher Mueller for the Royal Commission on National Passenger Transportation. The Commission modifies this information prior to use in its final report. Though it is possible to infer, to some extent, the magnitude of the modifications, the rationale behind the modifications is not evident from the final report. The Sypher Mueller data are used here without modification. Trip distance data allow the derivation of a cost per passenger-kilometre. Note that Pearson costs are taken to be the relevant costs for Toronto.

b) Air Navigation Systems (ANS)

The cost function reported in Directions (based on Sypher Mueller) is used here.

c) Land

These are reported in Directions, and are only relevant for airports in Toronto, Montréal and Ottawa.

d) Noise

These costs are reported in Directions, and are only relevant for Toronto and Montréal.

e) Environment

The derivation of pollutants in grams per litre was discussed above. These estimates combined with distance and fuel use data yield emissions in grams per passenger-kilometre. No fuel use data was available from carriers, therefore system average information from Directions was used for all routes other than Toronto-Montréal. Specific information for this route was available from Directions. The estimates available from Directions were compared with some estimates of fuel use by type of aircraft provided by Boeing. Some information was also available for the Dash - 8 aircraft. The various data sources indicated that the estimates used in Directions were within reasonable bounds.

f) Fuel Taxes

Derivation of the transportation component of the fuel tax in cents per litre was discussed earlier. Fuel use and occupancy data are used to derive fuel

consumption on a per passenger-kilometre basis. Combining the fuel tax and fuel consumption yields an estimate in cents per passenger kilometre.

g) Air Transportation Tax

Since costs are being derived for a one-way trip, the formula used in Directions is used here: \$5 plus 7% of average one-way fare, up to a maximum of \$40. Average one-way fare data were provided by Consumer Contact.

C. Results

Exhibit 2 presents a summary of our results. The results are reported in detail in forty tables included in Appendix B. These are organized by mode and by route. For each mode, results are reported for Windsor-Toronto, Toronto-Ottawa-Montréal, Toronto-Montréal and Montréal-Québec City. An additional route called Toronto-Montréal/Toronto-Ottawa-Montréal is also included which is an average of the two component routes. The extent to which the results differ on the Toronto-Montréal and Toronto-Ottawa-Montréal routes is dictated by the data.

The tables are organized in a consistent manner across modes. The column headings indicate who bears the costs. In general, costs are borne by users, the federal government, provincial governments and society at large. Negative costs indicate revenues. The row titles are cost/revenue items such as land costs, infrastructure costs, fuel taxes, etc.

To the extent possible, costs/revenues are split between the Ontario and Québec governments on the Toronto-Ottawa-Montréal and Toronto-Montréal routes.

There are ten tables for each of the four modes—car, bus, rail and air. The first five tables present costs in cents per passenger-kilometre, whereas the second set of five tables convert these to dollars per one way passenger-trip, using trip distances. As such, these costs and revenues represent the costs and revenues of the average trip on the route in question.

For example, consider Table 7. It provides the costs and revenues in dollars per passenger trip on the Toronto-Ottawa-Montréal route for the Car mode. Infrastructure costs are \$3.39 and are borne by provincial governments. Users pay \$5.26 in fuel taxes, of which \$2.38 is collected by the federal government, \$1.66 by the Ontario government and \$1.22 to the Québec government. The total costs of this trip are \$33.92 of which Others bear \$3.40; thus users bear a large majority of the costs.

A comparison of the total costs borne by “society” (\$4.76) and “others” (\$3.40) indicates that the average trip on this route generates a negative subsidy, or a net revenue for governments equal to \$1.36. The total costs borne by the federal government are -\$2.38,

or a net revenue of \$2.38. Comparing this with the net revenue of federal and provincial governments (\$1.36) suggests that provincial governments provide a subsidy of \$1.02 (\$2.88-1.36) per one-way passenger trip on this route.

DRAFT FOR DISCUSSION

Appendix A—Data Sources for Estimation of Modal Subsidies

A. Car

1. Infrastructure Costs - Directions (Final report of The Royal Commission on National Passenger Transportation), Vol. 2, pp. 140-144. (Based on Nix, F. P. et al. Road Costs, in Directions, Vol. 4, and capital charges are based on capital stocks developed by Lall, A. Transportation Infrastructure Costs in Canada, in Directions, Vol. 4).
2. Land Costs - Directions, Vol. 2, pg. 140 and pg. 161.
3. Trip Distances - Consumer Contact and Directions, Vol. 1, pg. 46.
4. Vehicle Registration Costs and Revenues - Provincial Governments.
5. Driver's Licences Costs and Revenues - Provincial Governments.
6. Number of Registered Vehicles - Provincial Governments and Statistics Canada - Cat. No. 53-219 - Road Motor Vehicles, Registrations 1991.
7. Number of Driver's Licences - Provincial Governments and Statistics Canada - Cat. No. 53-219 - Road Motor Vehicles, Registrations 1991.
8. Accident Costs - Directions, Vol. 2, pp. 114-118.
9. Ontario Tire Tax Revenues - The Globe and Mail, January 2, 1993.
10. Occupancy - Consumer Contact.
11. Fuel prices and tax rates - Energy, Mines and Resources Canada, Federal and Provincial Petroleum Product Taxes, Vols. 3 and 4. Fuel prices were provided by EMR.
12. Net sales of gasoline on which tax was paid at road use rates - Statistics Canada Cat. No. 53-218.
13. Environment Costs - Directions, Vol. 2, pp. 144-147, pg. 196 and pp. 225-229. (Based on VHB Research & Consulting Inc., Environmental Damage from Transportation, Directions, Vol. 4.).
14. Revenues from Highway Traffic Act Fines - Office of the Attorney General of Ontario.

15. Ontario Provincial Police Budget - Ontario Provincial Police.
16. Costs of Control - Haritos, Z. Rational Road Pricing Policies in Canada, Ottawa: Canadian Transport Commission, 1973.

B. Bus

1. Infrastructure Costs - Directions (Final report of The Royal Commission on National Passenger Transportation), Vol. 2, pp. 140-144. (Based on Nix, F. P. et. al. Road Costs, in Directions Vol.4, and capital charges are based on capital stocks developed by Lall, A. Transportation Infrastructure Costs in Canada, in Directions, Vol. 4).
2. Land Costs - Directions, Vol. 2, pg. 89.
3. Trip Distances - Consumer Contact and Directions, Vol. 1, pg. 46.
4. Accident Costs - Directions, Vol. 2, pp. 114-118.
5. Vehicle Registration Costs and Revenues - Provincial Governments.
6. Driver's Licences Costs and Revenues - Provincial Governments.
- 7.
8. Number of Registered Vehicles - Provincial Governments and Statistics Canada - Cat. No. 53-219 - Road Motor Vehicles, Registrations 1991.
8. Number of Driver's Licences - Provincial Governments and Statistics Canada - Cat. No. 53-219 - Road Motor Vehicles, Registrations 1991.
9. Ontario Tire Tax Revenues - The Globe and Mail, January 2, 1993.
10. Occupancy - Orléans Express and Greyhound.
11. Average Number of Seats - Orléans Express and Greyhound.
12. Annual Utilization - Orléans Express and Greyhound.
13. Fuel use - Orléans Express and Greyhound.
14. Fuel prices and tax rates - Energy, Mines and Resources Canada, Federal and Provincial Petroleum Product Taxes, Vols. 3 and 4. Fuel prices were provided by EMR.
15. Net sales of diesel fuel on which tax was paid at road use rates - Statistics Canada Cat. No. 53-218.
16. Environment Costs - Directions, Vol. 2, pp. 144-147, pg. 196 and pp. 225-229. (Based on VHB Research & Consulting Inc., Environmental Damage from Transportation, Directions, Vol. 4.).

17. Revenues from Highway Traffic Act Fines - Office of the Attorney General of Ontario.
18. Ontario Provincial Police Budget - Ontario Provincial Police.
19. Costs of Control - Haritos, Z. Rational Road Pricing Policies in Canada, Ottawa: Canadian Transport Commission, 1973.

C. Rail

1. Accident Costs - Directions, Vol. 2, pp. 114-118.
2. Fuel prices and tax rates - Energy, Mines and Resources Canada, Federal and Provincial Petroleum Product Taxes, Vols. 3 and 4. Fuel prices were provided by EMR.
3. End uses of fuel, by Mode, Type of Fuel and Province - Statistics Canada Cat. No. 57-003.
4. Fuel use - VIA Rail.
5. Trip Distances - Consumer Contact and Directions, Vol. 1, pg. 46.
6. Occupancy - Consumer Contact and VIA Rail.
7. Frequency of Service - Consumer Contact and VIA Rail.
8. Average Number of Cars per Train - Consumer Contact and VIA Rail.
9. Passenger Kms. of rail travel - calculated from information provided by VIA Rail.
10. Infrastructure/Carrier subsidy - VIA Rail.
11. Environment Costs - Directions, Vol. 2, pp. 144-147, pg. 196 and pp. 225-229. (Based on VHB Research & Consulting Inc., Environmental Damage from Transportation, Directions, Vol. 4.).

D. Air

1. Air Navigation Systems (ANS) - Directions, Vol. 2, pg. 106. (Based on Sypher Mueller International Inc., Air Infrastructure Costing, Royal Commission on National Passenger Transportation, RR-04, August 1991).
2. Land Costs - Directions, Vol. 2, pg. 108.
3. Airport Costs - Directions, Vol. 2, pp. 98-103. (Based on Sypher Mueller International Inc., Air Infrastructure Costing, Royal Commission on National Passenger Transportation, RR-04, August 1991).
4. Trip Distances - Consumer Contact and Directions, Vol. 1, pg. 46.

5. Accident Costs - Directions, Vol. 2, pp. 114-118.
6. Noise Costs - Directions, Vol. 2, pp. 235-236.
7. Air Transportation Tax (ATT) - calculated on the basis of air fares provided by Consumer Contact.
8. Fuel prices and tax rates - Energy, Mines and Resources Canada, Federal and Provincial Petroleum Product Taxes, Vols. 3 and 4. Fuel prices were provided by EMR.
9. End uses of fuel, by Mode, Type of Fuel and Province - Statistics Canada Cat. No. 57-003.
10. Fuel use - Directions, Vol. 2, pg. 131 and pg. 225. Information was also obtained for the Dash - 8 and for other aircraft from Boeing, Seattle, Washington.
11. Frequency of Service - Consumer Contact.
12. Average Number of Seats Per Plane - Consumer Contact.
13. Environment Costs - Directions, Vol. 2, pp. 144-147, pg. 196 and pp. 225-229. (Based on VHB Research & Consulting Inc., Environmental Damage from Transportation, Directions, Vol. 4.).

Appendix B—Detailed Results of Estimation of Modal Subsidies

DRAFT FOR DISCUSSION

Table 1								
	Mode: CAR							
	Route: Windsor-Toronto							
	Costs borne by (In cents per Passenger-Km.)							
	Users	Others	Others	Others	Others	Total		
		Federal	Provincial	Society	Total			
Infrastructure			0.54279		0.54279	0.54279		
Land			0.01000		0.01000	0.01000		
Environment				0.67824	0.67824	0.67824		
Accident	3.71800			0.08200	0.08200	3.80000		
Fuel Taxes	0.79901	-0.38060	-0.41842		-0.79901	0.00000		
Vehicle Regn.	0.18763		-0.17874		-0.17874	0.00889		
Driver Licence	0.02389		-0.01143		-0.01143	0.01246		
Tire Tax	0.01421		-0.01421		-0.01421	0.00000		
Control			0.05810		0.05810	0.05810		
Total	4.74276	-0.38060	-0.01192	0.76024	0.36772	5.11048		

Table 2								
	Mode: CAR							
	Route: Toronto-Ottawa-Montreal							
	Costs borne by (In cents per Passenger-Km.)							
	Users	Others	Others	Others	Others	Others	Others	Total
		Federal	Ontario	Quebec	Provincial	Society	Total	
Infrastructure					0.53209		0.53209	0.53209
Land					0.25118		0.25118	0.25118
Environment						0.66488	0.66488	0.66488
Accident	3.71800					0.08200	0.08200	3.80000
Fuel Taxes	0.82578	-0.37310	-0.26059	-0.19209			-0.82578	0.00000
Vehicle Regn.	0.21470		-0.10853	-0.09653			-0.20506	0.00964
Driver Licence	0.02389		-0.00691	-0.00727			-0.01417	0.00972
Tire Tax	0.00863		-0.00863				-0.00863	0.00000
Control					0.05696		0.05696	0.05696
Total	4.79100	-0.37310	-0.38466	-0.29589	0.84023	0.74688	0.53347	5.32447

Table 3								
	Mode: CAR							
	Route: Toronto-Montreal							
	Costs borne by (In cents per Passenger-Km.)							
	Users	Others	Others	Others	Others	Others	Others	Total
		Federal	Ontario	Quebec	Provincial	Society	Total	
Infrastructure					0.52452		0.52452	0.52452
Land					0.29685		0.29685	0.29685
Environment						0.65541	0.65541	0.65541
Accident	3.71800					0.08200	0.08200	3.80000
Fuel Taxes	0.81403	-0.36779	-0.25688	-0.18936			-0.81403	0.00000
Vehicle Regn.	0.21164		-0.10699	-0.09515			-0.20214	0.00950
Driver Licence	0.02561		-0.00681	-0.00716			-0.01397	0.01164
Tire Tax	0.00851		-0.00851				-0.00851	0.00000
Control					0.05615		0.05615	0.05615
Total	4.77779	-0.36779	-0.37918	-0.29167	0.87751	0.73741	0.57628	5.35407

Table 4								
	Mode: CAR							
	Route: Toronto-Montreal / Toronto-Ottawa-Montreal							
	Costs borne by (In cents per Passenger-Km.)							
	Users	Others	Others	Others	Others	Others	Others	Total
		Federal	Ontario	Quebec	Provincial	Society	Total	
Infrastructure					0.52831		0.52831	0.52831
Land					0.27401		0.27401	0.27401
Environment						0.66014	0.66014	0.66014
Accident	3.71800					0.08200	0.08200	3.80000
Fuel Taxes	0.81990	-0.37044	-0.25873	-0.19072			-0.81990	0.00000
Vehicle Regn.	0.21317		-0.10776	-0.09584			-0.20360	0.00957
Driver Licence	0.02475		-0.00686	-0.00721			-0.01407	0.01068
Tire Tax	0.00857		-0.00857				-0.00857	0.00000
Control					0.05655		0.05655	0.05655
Total	4.78440	-0.37044	-0.38192	-0.29378	0.85887	0.74214	0.55487	5.33927

Table 5								
	Mode: CAR							
	Route: Montreal-Quebec							
	Costs borne by (In cents per Passenger-Km.)							
	Users	Others	Others	Others	Others	Total		
		Federal	Provincial	Society	Total			
Infrastructure			0.52201		0.52201	0.52201		
Land			0.01000		0.01000	0.01000		
Environment				0.65228	0.65228	0.65228		
Accident	3.71800			0.08200	0.08200	3.80000		
Fuel Taxes	0.88278	-0.36603	-0.51675		-0.88278	0.00000		
Vehicle Regn.	0.25974		-0.24880		-0.24880	0.01094		
Driver Licence	0.02951		-0.01858		-0.01858	0.01094		
Tire Tax								
Control			0.05588		0.05588	0.05588		
Total	4.89003	-0.36603	-0.19624	0.73428	0.17201	5.06204		

Table 6								
	Mode: CAR							
	Route: Windsor-Toronto			381 Km.				
	Costs borne by (In \$ per One way passenger-trip)							
	Users	Others	Others	Others	Others	Total		
		Federal	Provincial	Society	Total			
Infrastructure			2.07		2.07	2.07		
Land			0.04		0.04	0.04		
Environment				2.58	2.58	2.58		
Accident	14.17			0.31	0.31	14.48		
Fuel Taxes	3.04	-1.45	-1.59		-3.04	0.00		
Vehicle Regn.	0.71		-0.68		-0.68	0.03		
Driver Licence	0.09		-0.04		-0.04	0.05		
Tire Tax	0.05		-0.05		-0.05	0.00		
Control			0.22		0.22	0.22		
Total	18.07	-1.45	-0.05	2.90	1.40	19.47		

Table 7								
	Mode: CAR							
	Route: Toronto-Ottawa-Montreal				637 Km.			
	Costs borne by (In \$ per One way passenger-trip)							
	Users	Others	Others	Others	Others	Others	Others	Total
		Federal	Ontario	Quebec	Provincial	Society	Total	
Infrastructure					3.39		3.39	3.39
Land					1.60		1.60	1.60
Environment						4.24	4.24	4.24
Accident	23.68					0.52	0.52	24.21
Fuel Taxes	5.26	-2.38	-1.66	-1.22			-5.26	0.00
Vehicle Regn.	1.37		-0.69	-0.61			-1.31	0.06
Driver Licence	0.15		-0.04	-0.05			-0.09	0.06
Tire Tax	0.05		-0.05				-0.05	0.00
Control					0.36		0.36	0.36
Total	30.52	-2.38	-2.45	-1.88	5.35	4.76	3.40	33.92

Table 8								
	Mode: CAR							
	Route: Toronto-Montreal			539.00 Km.				
	Costs borne by (In \$ per One way passenger-trip)							
	Users	Others	Others	Others	Others	Others	Others	Total
		Federal	Ontario	Quebec	Provincial	Society	Total	
Infrastructure					2.83		2.83	2.83
Land					1.60		1.60	1.60
Environment						3.53	3.53	3.53
Accident	20.04					0.44	0.44	20.48
Fuel Taxes	4.39	-1.98	-1.38	-1.02			-4.39	0.00
Vehicle Regn.	1.14		-0.58	-0.51			-1.09	0.05
Driver Licence	0.14		-0.04	-0.04			-0.08	0.06
Tire Tax	0.05		-0.05				-0.05	0.00
Control					0.30		0.30	0.30
Total	25.75	-1.98	-2.04	-1.57	4.73	3.97	3.11	28.86

Table 9								
	Mode: CAR							
	Route: Toronto-Montreal / Toronto-Ottawa-Montreal						588 Km.	
	Costs borne by (In \$ per One way passenger-trip)							
	Users	Others	Others	Others	Others	Others	Others	Total
		Federal	Ontario	Quebec	Provincial	Society	Total	
Infrastructure					3.11		3.11	3.11
Land					1.60		1.60	1.60
Environment						3.88	3.88	3.88
Accident	21.86					0.48	0.48	22.34
Fuel Taxes	4.82	-2.18	-1.52	-1.12			-4.82	0.00
Vehicle Regn.	1.25		-0.63	-0.56			-1.20	0.06
Driver Licence	0.15		-0.04	-0.04			-0.08	0.06
Tire Tax	0.05		-0.05				-0.05	0.00
Control					0.33		0.33	0.33
Total	28.14	-2.18	-2.25	-1.73	5.04	4.37	3.25	31.39

Table 10								
	Mode: CAR							
	Route: Montreal-Quebec			256 Km.				
	Costs borne by (In \$ per One way passenger-trip)							
	Users	Others	Others	Others	Others	Total		
		Federal	Provincial	Society	Total			
Infrastructure			1.34		1.34	1.34		
Land			0.03		0.03	0.03		
Environment				1.67	1.67	1.67		
Accident	9.52			0.21	0.21	9.73		
Fuel Taxes	2.26	-0.94	-1.32		-2.26	0.00		
Vehicle Regn.	0.66		-0.64		-0.64	0.03		
Driver Licence	0.08		-0.05		-0.05	0.03		
Tire Tax								
Control			0.14		0.14	0.14		
Total	12.52	-0.94	-0.50	1.88	0.44	12.96		

Table 11								
	Mode: BUS							
	Route: Windsor-Toronto							
	Costs borne by (in cents per Passenger-Km.)							
	Users	Others	Others	Others	Others	Total		
		Federal	Provincial	Society	Total			
Infrastructure			0.07758		0.07758	0.07758		
Land			0.02000		0.02000	0.02000		
Environment				0.24028	0.24028	0.24028		
Accident	0.39200			0.00800	0.00800	0.40000		
Fuel Taxes	0.19362	-0.05605	-0.13757		-0.19362	0.00000		
Vehicle Regn.	0.00591		-0.00591		-0.00591	0.00000		
Driver Licence	0.00003		-0.00003		-0.00003	0.00000		
Tire Tax	0.00250		-0.00250		-0.00250	0.00000		
Control			0.00041		0.00041	0.00041		
Total	0.59407	-0.05605	-0.04803	0.24828	0.14419	0.73826		

Table 12								
	Mode: BUS							
	Route: Toronto-Ottawa-Montreal							
	Costs borne by (In cents per Passenger-Km.)							
	Users	Others	Others	Others	Others	Others	Others	Total
		Federal	Ontario	Quebec	Provincial	Society	Total	
Infrastructure					0.05402		0.05402	0.05402
Land					0.02000		0.02000	0.02000
Environment						0.19190	0.19190	0.19190
Accident	0.39200					0.00800	0.00800	0.40000
Fuel Taxes	0.15884	-0.04476	-0.05711	-0.05697			-0.15884	0.00000
Vehicle Regn.	0.00430		-0.00315	-0.00114			-0.00430	0.00000
Driver Licence	0.00004		-0.00001	-0.00002			-0.00004	0.00000
Tire Tax	0.00191		-0.00191				-0.00191	0.00000
Control					0.00028		0.00028	0.00028
Total	0.55709	-0.04476	-0.06219	-0.05814	0.07430	0.19990	0.10911	0.66620

Table 13								
	Mode: BUS							
	Route: Toronto-Montreal							
	Costs borne by (In cents per Passenger-Km.)							
	Users	Others	Others	Others	Others	Others	Others	Total
		Federal	Ontario	Quebec	Provincial	Society	Total	
Infrastructure					0.05402		0.05402	0.05402
Land					0.02000		0.02000	0.02000
Environment						0.19190	0.19190	0.19190
Accident	0.39200					0.00800	0.00800	0.40000
Fuel Taxes	0.15884	-0.04476	-0.05711	-0.05697			-0.15884	0.00000
Vehicle Regn.	0.00430		-0.00315	-0.00114			-0.00430	0.00000
Driver Licence	0.00004		-0.00001	-0.00002			-0.00004	0.00000
Tire Tax	0.00191		-0.00191				-0.00191	0.00000
Control					0.00028		0.00028	0.00028
Total	0.55709	-0.04476	-0.06219	-0.05814	0.07430	0.19990	0.10911	0.66620

Table 14								
	Mode: BUS							
	Route: Toronto-Montreal / Toronto-Ottawa-Montreal							
	Costs borne by (in cents per Passenger-Km.)							
	Users	Others	Others	Others	Others	Others	Others	Total
		Federal	Ontario	Quebec	Provincial	Society	Total	
Infrastructure					0.05402		0.05402	0.05402
Land					0.02000		0.02000	0.02000
Environment						0.19190	0.19190	0.19190
Accident	0.39200					0.00800	0.00800	0.40000
Fuel Taxes	0.15884	-0.04476	-0.05711	-0.05697			-0.15884	0.00000
Vehicle Regn.	0.00430		-0.00315	-0.00114			-0.00430	0.00000
Driver Licence	0.00004		-0.00001	-0.00002			-0.00004	0.00000
Tire Tax	0.00191		-0.00191				-0.00191	0.00000
Control					0.00028		0.00028	0.00028
Total	0.55709	-0.04476	-0.06219	-0.05814	0.07430	0.19990	0.10911	0.66620

Table 15								
	Mode: BUS							
	Route: Montreal-Quebec							
	Costs borne by (In cents per Passenger-Km.)							
	Users	Others	Others	Others	Others	Total		
		Federal	Provincial	Society	Total			
Infrastructure			0.06020		0.06020	0.06020		
Land			0.02000		0.02000	0.02000		
Environment				0.24858	0.24858	0.24858		
Accident	0.39200			0.00800	0.00800	0.40000		
Fuel Taxes	0.21165	-0.05799	-0.15367		-0.21165	0.00000		
Vehicle Regn.	0.00543		-0.00543		-0.00543	0.00000		
Driver Licence	0.00007		-0.00007		-0.00007	0.00000		
Tire Tax					0.00000	0.00000		
Control			0.00031		0.00031	0.00031		
Total	0.60915	-0.05799	-0.07866	0.25658	0.11994	0.72910		

Table 16								
	Mode: BUS							
	Route: Windsor-Toronto			381 Km.				
	Costs borne by (In \$ per One way passenger-trip)							
	Users	Others	Others	Others	Others	Total		
		Federal	Provincial	Society	Total			
Infrastructure			0.30		0.30	0.30		
Land			0.08		0.08	0.08		
Environment				0.92	0.92	0.92		
Accident	1.49			0.03	0.03	1.52		
Fuel Taxes	0.74	-0.21	-0.52		-0.74	0.00		
Vehicle Regn.	0.02		-0.02		-0.02	0.00		
Driver Licence	0.00		0.00		0.00	0.00		
Tire Tax	0.01		-0.01		-0.01	0.00		
Control			0.00		0.00	0.00		
Total	2.26	-0.21	-0.18	0.95	0.55	2.81		

Table 17								
	Mode: BUS							
	Route: Toronto-Ottawa-Montreal				637 Km.			
	Costs borne by (In \$ per One way passenger-trip)							
	Users	Others	Others	Others	Others	Others	Others	Total
		Federal	Ontario	Quebec	Provincial	Society	Total	
Infrastructure					0.34		0.34	0.34
Land					0.13		0.13	0.13
Environment						1.22	1.22	1.22
Accident	2.50					0.05	0.05	2.55
Fuel Taxes	1.01	-0.29	-0.36	-0.36			-1.01	0.00
Vehicle Regn.	0.03		-0.02	-0.01			-0.03	0.00
Driver Licence	0.00		0.00	0.00			0.00	0.00
Tire Tax	0.01		-0.01				-0.01	0.00
Control					0.00		0.00	0.00
Total	3.55	-0.29	-0.40	-0.37	0.47	1.27	0.70	4.24

Table 18								
	Mode: BUS							
	Route: Toronto-Montreal			539 Km.				
	Costs borne by (in \$ per One way passenger-trip)							
	Users	Others	Others	Others	Others	Others	Others	Total
		Federal	Ontario	Quebec	Provincial	Society	Total	
Infrastructure					0.29		0.29	0.29
Land					0.11		0.11	0.11
Environment						1.03	1.03	1.03
Accident	2.11					0.04	0.04	2.16
Fuel Taxes	0.86	-0.24	-0.31	-0.31			-0.86	0.00
Vehicle Regn.	0.02		-0.02	-0.01			-0.02	0.00
Driver Licence	0.00		0.00	0.00			0.00	0.00
Tire Tax	0.01		-0.01				-0.01	0.00
Control					0.00		0.00	0.00
Total	3.00	-0.24	-0.34	-0.31	0.40	1.08	0.59	3.59

Table 19								
	Mode: BUS							
	Route: Toronto-Montreal / Toronto-Ottawa-Montreal						588 Km.	
	Costs borne by (In \$ per One way passenger-trip)							
	Users	Others	Others	Others	Others	Others	Others	Total
		Federal	Ontario	Quebec	Provincial	Society	Total	
Infrastructure					0.32		0.32	0.32
Land					0.12		0.12	0.12
Environment						1.13	1.13	1.13
Accident	2.30					0.05	0.05	2.35
Fuel Taxes	0.93	-0.26	-0.34	-0.33			-0.93	0.00
Vehicle Regn.	0.03		-0.02	-0.01			-0.03	0.00
Driver Licence	0.00		0.00	0.00			0.00	0.00
Tire Tax	0.01		-0.01				-0.01	0.00
Control					0.00		0.00	0.00
Total	3.28	-0.26	-0.37	-0.34	0.44	1.18	0.64	3.92

Table 20								
	Mode: BUS							
	Route: Montreal-Quebec			256 Km.				
	Costs borne by (In \$ per One way passenger-trip)							
	Users	Others	Others	Others	Others	Total		
		Federal	Provincial	Society	Total			
Infrastructure			0.15		0.15	0.15		
Land			0.05		0.05	0.05		
Environment				0.64	0.64	0.64		
Accident	1.00			0.02	0.02	1.02		
Fuel Taxes	0.54	-0.15	-0.39		-0.54	0.00		
Vehicle Regn.	0.01		-0.01		-0.01	0.00		
Driver Licence	0.00		0.00		0.00	0.00		
Tire Tax					0.00	0.00		
Control			0.00		0.00	0.00		
Total	1.56	-0.15	-0.20	0.66	0.31	1.87		

Table 21								
	Mode: RAIL							
	Route: Windsor-Toronto							
	Costs borne by (In cents per Passenger-Km.)							
	Users	Others	Others	Others	Others	Total		
		Federal	Ontario	Society	Total			
Infrastr./carrier		25.27792			25.27792	25.27792		
Environment				1.28583	1.28583	1.28583		
Accident	0.20000				0.00000	0.20000		
Fuel Taxes	0.33886	-0.24417	-0.09470		-0.33886	0.00000		
Total	0.53886	25.03375	-0.09470	1.28583	26.22489	26.76375		

Table 22								
	Mode: RAIL							
	Route: Toronto-Ottawa-Montreal							
	Costs borne by (In cents per Passenger-Km.)							
	Users	Others	Others	Others	Others	Others	Total	
		Federal	Ontario	Quebec	Society	Total		
Infrastr./carrier		16.42914				16.42914	16.42914	
Environment					1.01353	1.01353	1.01353	
Accident	0.20000					0.00000	0.20000	
Fuel Taxes	0.28376	-0.19246	-0.05681	-0.03449		-0.28376	0.00000	
Total	0.48376	16.23668	-0.05681	-0.03449	1.01353	17.15891	17.64267	

Table 23								
	Mode: RAIL							
	Route: Toronto-Montreal							
	Costs borne by (in cents per Passenger-Km.)							
	Users	Others	Others	Others	Others	Others	Total	
		Federal	Ontario	Quebec	Society	Total		
Infrastr./carrier		13.06529				13.06529	13.06529	
Environment					0.89912	0.89912	0.89912	
Accident	0.20000					0.00000	0.20000	
Fuel Taxes	0.25173	-0.17074	-0.05039	-0.03060		-0.25173	0.00000	
Total	0.45173	12.89455	-0.05039	-0.03060	0.89912	13.71268	14.16441	

Table 24								
	Mode: RAIL							
	Route: Toronto-Montreal / Toronto-Ottawa-Montreal							
	Costs borne by (In cents per Passenger-Km.)							
	Users	Others	Others	Others	Others	Others	Total	
		Federal	Ontario	Quebec	Society	Total		
Infrastr./carrier		14.74722				14.74722	14.74722	
Environment					0.95633	0.95633	0.95633	
Accident	0.20000					0.00000	0.20000	
Fuel Taxes	0.26774	-0.18160	-0.05360	-0.03255		-0.26774	0.00000	
Total	0.46774	14.56562	-0.05360	-0.03255	0.95633	15.43580	15.90354	

Table 25								
	Mode: RAIL							
	Route: Montreal-Quebec							
	Costs borne by (In cents per Passenger-Km.)							
	Users	Others	Others	Others	Others	Total		
		Federal	Quebec	Society	Total			
Infrastr./carrier		22.49814			22.49814	22.49814		
Environment				1.30530	1.30530	1.30530		
Accident	0.20000				-0.00000	0.20000		
Fuel Taxes	0.43376	-0.24786	-0.18590		-0.43376	0.00000		
Total	0.63376	22.25028	-0.18590	1.30530	23.36968	24.00344		

Table 26								
	Mode: RAIL							
	Route: Windsor-Toronto			359 Km.				
	Costs borne by (In \$ per One way passenger-trip)							
	Users	Others	Others	Others	Others	Total		
		Federal	Ontario	Society	Total			
Infrastr./carrier		90.75			90.75	90.75		
Environment				4.62	4.62	4.62		
Accident	0.72				0.00	0.72		
Fuel Taxes	1.22	-0.88	-0.34		-1.22	0.00		
Total	1.93	89.87	-0.34	4.62	94.15	96.08		

Table 27								
	Mode: RAIL							
	Route: Toronto-Ottawa-Montreal				633 Km.			
	Costs borne by (In \$ per One way passenger-trip)							
	Users	Others	Others	Others	Others	Others	Total	
		Federal	Ontario	Quebec	Society	Total		
Infrastr./carrier		104.00				104.00	104.00	
Environment					6.42	6.42	6.42	
Accident	1.27					0.00	1.27	
Fuel Taxes	1.80	-1.22	-0.36	-0.22		-1.80	0.00	
Total	3.06	102.78	-0.36	-0.22	6.42	108.62	111.68	

Table 28								
	Mode: RAIL							
	Route: Toronto-Montreal			540 Km.				
	Costs borne by (In \$ per One way passenger-trip)							
	Users	Others	Others	Others	Others	Others	Total	
		Federal	Ontario	Quebec	Society	Total		
Infrastr./carrier		70.55				70.55	70.55	
Environment					4.86	4.86	4.86	
Accident	1.08					0.00	1.08	
Fuel Taxes	1.36	-0.92	-0.27	-0.17		-1.36	0.00	
Total	2.44	69.63	-0.27	-0.17	4.86	74.05	76.49	

Table 29								
	Mode: RAIL							
	Route: Toronto-Montreal / Toronto-Ottawa-Montreal					586.5 Km.		
	Costs borne by (In \$ per One way passenger-trip)							
	Users	Others	Others	Others	Others	Others	Total	
		Federal	Ontario	Quebec	Society	Total		
Infrastr./carrier		87.27				87.27	87.27	
Environment					5.64	5.64	5.64	
Accident	1.17					0.00	1.17	
Fuel Taxes	1.58	-1.07	-0.32	-0.19		-1.58	0.00	
Total	2.75	86.20	-0.32	-0.19	5.64	91.33	94.08	

Table 30								
	Mode: RAIL							
	Route: Montreal-Quebec			272 Km.				
	Costs borne by (In \$ per One way passenger-trip)							
	Users	Others	Others	Others	Others	Total		
		Federal	Quebec	Society	Total			
Infrastr./carrier		61.19			61.19	61.19		
Environment				3.55	3.55	3.55		
Accident	0.54				0.00	0.54		
Fuel Taxes	1.18	-0.67	-0.51		-1.18	0.00		
Total	1.72	60.52	-0.51	3.55	63.57	65.29		

Table 31								
	Mode: AIR							
	Route: Windsor-Toronto							
	Costs borne by (In cents per Passenger-Km.)							
	Users	Others	Others	Others	Others	Total		
		Federal	Provincial	Society	Total			
Airports	2.46154	4.30769			4.30769	6.76923		
ANS		2.38462			2.38462	2.38462		
Land		1.53846			1.53846	1.53846		
Environment				1.00952	1.00952	1.00952		
Noise				0.30769	0.30769	0.30769		
Accident	0.10000				0.00000	0.10000		
Fuel Taxes	0.42745	-0.41200	-0.01545		-0.42745	0.00000		
ATT	4.89846	-4.89846			-4.89846	0.00000		
Total	7.88745	2.92031	-0.01545	1.31721	4.22207	12.10952		

Table 32								
	Mode: AIR							
	Route: Toronto-Ottawa-Montreal							
	Costs borne by (In cents per Passenger-Km.)							
	Users	Others	Others	Others	Others	Others	Total	
		Federal	Ontario	Quebec	Society	Total		
Airports	3.98406	2.58964				2.58964	6.57371	
ANS		2.67490				2.67490	2.67490	
Land		3.98406				3.98406	3.98406	
Environment					0.97366	0.97366	0.97366	
Noise					0.39841	0.39841	0.39841	
Accident	0.10000					0.00000	0.10000	
Fuel Taxes	0.51204	-0.41200	-0.01100	-0.08904		-0.51204	0.00000	
ATT	3.38185	-3.38185				-3.38185	0.00000	
Total	7.97796	5.45475	-0.01100	-0.08904	1.37206	6.72677	14.70473	

Table 33								
	Mode: AIR							
	Route: Toronto-Montreal							
	Costs borne by (In cents per Passenger-Km.)							
	Users	Others	Others	Others	Others	Others	Total	
		Federal	Ontario	Quebec	Society	Total		
Airports	2.01613	2.21774				2.21774	4.23387	
ANS		2.04516				2.04516	2.04516	
Land		2.01613				2.01613	2.01613	
Environment					0.79362	0.79362	0.79362	
Noise					0.40323	0.40323	0.40323	
Accident	0.10000					0.00000	0.10000	
Fuel Taxes	0.40893	-0.32903	-0.00878	-0.07111		-0.40893	0.00000	
ATT	3.38185	-3.38185				-3.38185	0.00000	
Total	5.90691	2.56815	-0.00878	-0.07111	1.19685	3.68510	9.59201	

Table 34								
	Mode: AIR							
	Route: Toronto-Montreal / Toronto-Ottawa-Montreal							
	Costs borne by (In cents per Passenger-Km.)							
	Users	Others	Others	Others	Others	Others	Total	
		Federal	Ontario	Quebec	Society	Total		
Airports	3.00010	2.40369				2.40369	5.40379	
ANS		2.36003				2.36003	2.36003	
Land		3.00010				3.00010	3.00010	
Environment					0.88364	0.88364	0.88364	
Noise					0.40082	0.40082	0.40082	
Accident	0.10000					0.00000	0.10000	
Fuel Taxes	0.46048	-0.37052	-0.00989	-0.08008		-0.46048	0.00000	
ATT	3.38185	-3.38185				-3.38185	0.00000	
Total	6.94243	4.01145	-0.00989	-0.08008	1.28446	5.20594	12.14837	

Table 35								
	Mode: AIR							
	Route: Montreal-Quebec							
	Costs borne by (In cents per Passenger-Km.)							
	Users	Others	Others	Others	Others	Total		
		Federal	Provincial	Society	Total			
Airports	3.40136	5.44218			5.44218	8.84354		
ANS		2.48844			2.48844	2.48844		
Land		1.70068			1.70068	1.70068		
Environment				1.00952	1.00952	1.00952		
Noise				0.34014	0.34014	0.34014		
Accident	0.10000				0.00000	0.10000		
Fuel Taxes	0.72100	-0.41200	-0.30900		-0.72100	0.00000		
ATT	6.91568	-6.91568			-6.91568	0.00000		
Total	11.13804	2.30361	-0.30900	1.34966	3.34427	14.48231		

Table 36								
	Mode: AIR							
	Route: Windsor-Toronto			325 Km.				
	Costs borne by (In \$ per One way passenger-trip)							
	Users	Others	Others	Others	Others	Total		
		Federal	Provincial	Society	Total			
Airports	8.00	14.00			14.00	22.00		
ANS		7.75			7.75	7.75		
Land		5.00			5.00	5.00		
Environment				3.28	3.28	3.28		
Noise				1.00	1.00	1.00		
Accident	0.33				0.00	0.33		
Fuel Taxes	1.39	-1.34	-0.05		-1.39	0.00		
ATT	15.92	-15.92			-15.92	0.00		
Total	25.63	9.49	-0.05	4.28	13.72	39.36		

Table 37								
	Mode: AIR							
	Route: Toronto-Ottawa-Montreal				502 Km.			
	Costs borne by (in \$ per One way passenger-trip)							
	Users	Others	Others	Others	Others	Others	Total	
		Federal	Ontario	Quebec	Society	Total		
Airports	20.00	13.00				13.00	33.00	
ANS		13.43				13.43	13.43	
Land		20.00				20.00	20.00	
Environment					4.89	4.89	4.89	
Noise					2.00	2.00	2.00	
Accident	0.50					0.00	0.50	
Fuel Taxes	2.57	-2.07	-0.06	-0.45		-2.57	0.00	
ATT	16.98	-16.98				-16.98	0.00	
Total	40.05	27.38	-0.06	-0.45	6.89	33.77	73.82	

Table 38								
	Mode: AIR							
	Route: Toronto-Montreal			496 Km.				
	Costs borne by (In \$ per One way passenger-trip)							
	Users	Others	Others	Others	Others	Others	Total	
		Federal	Ontario	Quebec	Society	Total		
Airports	10.00	11.00				11.00	21.00	
ANS		10.14				10.14	10.14	
Land		10.00				10.00	10.00	
Environment					3.94	3.94	3.94	
Noise					2.00	2.00	2.00	
Accident	0.50					0.00	0.50	
Fuel Taxes	2.03	-1.63	-0.04	-0.35		-2.03	0.00	
ATT	16.77	-16.77				-16.77	0.00	
Total	29.30	12.74	-0.04	-0.35	5.94	18.28	47.58	

Table 39								
	Mode: AIR							
	Route: Toronto-Montreal / Toronto-Ottawa-Montreal					499 Km.		
	Costs borne by (in \$ per One way passenger-trip)							
	Users	Others	Others	Others	Others	Others	Total	
		Federal	Ontario	Quebec	Society	Total		
Airports	15.00	12.00				12.00	27.00	
ANS		11.79				11.79	11.79	
Land		15.00				15.00	15.00	
Environment					4.41	4.41	4.41	
Noise					2.00	2.00	2.00	
Accident	0.50					0.00	0.50	
Fuel Taxes	2.30	-1.85	-0.05	-0.40		-2.30	0.00	
ATT	16.88	-16.88				-16.88	0.00	
Total	34.67	20.06	-0.05	-0.40	6.41	26.02	60.70	

Table 40								
	Mode: AIR							
	Route: Montreal-Quebec			294 Km.				
	Costs borne by (In \$ per One way passenger-trip)							
	Users	Others	Others	Others	Others	Total		
		Federal	Provincial	Society	Total			
Airports	10.00	16.00			16.00	26.00		
ANS		7.32			7.32	7.32		
Land		5.00			5.00	5.00		
Environment				2.97	2.97	2.97		
Noise				1.00	1.00	1.00		
Accident	0.29				0.00	0.29		
Fuel Taxes	2.12	-1.21	-0.91		-2.12	0.00		
ATT	20.33	-20.33			-20.33	0.00		
Total	32.75	6.77	-0.91	3.97	9.83	42.58		