SCHOOL BUS TRANSPORTATION IN CANADA

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I. Introduction

Interest in the subject of school bus transportation arose from two sources: first, an initiation of inquiries into the supply of school bus services which involved bid-rigging over the years; and second, the entry of Laidlaw Inc. into this industry and its rise to the largest school bus operator in Canada. This paper, however, is not concerned with these two issues. It provides an overview of school bus transportation and examines a few issues that have arisen in the provision of school bus transportation in Canada.

Section II examines the school bus industry, the structure, its services, its operation by province, the firms in the industry and concentration. Section III briefly indicates the types of regulations in this industry which ultimately affects entry into it. Section IV briefly describes a few studies on school bus transportation services, a suggested market structure approach together with likely practices that could affect it - coordination and bid-rigging. Section V comments on the impact of school bus transport programs on public transportation systems. Section VI provides a few concluding remarks.

II. School Bus Industry in Canada

a) Definition

There are no unique definitions of the bus industry, bus service or school bus. The *bus industry* can best be described by its various components. The North American Industrial Classification System classifies its components into: urban transit, scheduled intercity bus, school bus, charter bus, other (shuttle) and scenic-sightseeing.

Bus services following the industry are largely described as: urban transit services i.e., services using buses, coaches, trolleys, street cars, light rail and heavy rail; scheduled intercity bus services i.e., interurban and rural bus services; school bus services; charter bus services i.e., services provided by school buses and motor coaches, other i.e., shuttle services; and scenic-sightseeing services.

A *school bus* is commonly used to describe a vehicle to transport students to and

from school. A broader definition would be a "school bus means a vehicle authorized by the Manager of Transportation Services for the transportation of students on yellow school buses, handi-buses, and taxis, but does not include public transportation on transit or vehicles owned by parents and authorized by the Manager of Transportation Services." A more legalistic definition in Canada could appear as follows: "school bus means a motor vehicle i) that is (A) owned or leased by a school board, and (B) used primarily to transport pupils to or from or to and from a school, or (ii) that is (A) owned or leased by a person other than a school board, and (b) pursuant to an agreement between that person and a school board used primarily to transport pupils to or from or to and from a school." Three types of school buses are produced: small; transit-style and conventional-style.

A *school bus service*, according to Transport Canada is defined as transportation of students to and from school. Some of this service is provided directly by school administrations though most of it is contracted out to private operators.

b) The Structure of the Bus Transportation in Canada

The structure of the Canadian bus transportation is examined first by *bus industries* and second by *bus services*.

The *bus industries* revenues in 2007, amounted to $10,232 million. The most important components: urban transit and school bus accounted for 70% and 16%. The other components: scheduled intercity bus, charter bus, other accounted for 6%, 5% and 1.6%. In terms of employment, the industry (bus and non-bus) accounted for 92,819 employees consisting of drivers, mechanics and other employees. The corresponding employment was: 67.8%, 6.5% and 25.7%. In terms of fleet, the industry accounted for 62,389 vehicles consisting of motor coaches, school buses, urban transit buses and other rolling stock. The corresponding fleet was: 8.2%, 57.5%, 24.7%, and 9.6%.

The *bus services* revenues in 2007 also amounted to $10,232 million. The most important bus services: urban and school accounted for 27.14% and 13.2%. The other components: charter, scheduled intercity, shuttle and sightseeing accounted for 6%, 4.5% and .8%. Bus parcel express, other passenger bus services, capital subsidies and operating subsidies accounted for 1.1%, 1%, 19.25% and 26.97%. Statistics for the bus industries and bus services for the period 1986-2007 are shown in the Appendix 1 in tables 1a and 4a.

c) The School Bus Industry and Services

The school bus industry revenue in 2007 amounted to $1,602.9 million. For the period 1986-2007 the statistics are shown in table 1 below. The revenues have

increased by 150.4% over this period and by 52.3% over the period 1995-2007.

Table 1 – School Bus Industry Revenue (1986-2007)

School Bus	1986	1995	2000	2007
No. of Establishments			718	965
Revenue (m)	640	1052.6	1459.6	1602.9

Source: Passenger Bus and Urban Transit Statistics, Statistics Canada, Cat. No. 53-215 XIB. Surface and Marine Transport, Service Bulletin, Cat. 50-002 XIE, June 2007.

Employment by the school bus industry in 2007 is shown in table 2. The majority of the employees 86%

Table 2- School Bus Employment 2007

School Bus Industry	Drivers	Mechanics	Other Employees	Total
	27,420	1,727	2,548	31,695

Source: Surface and Marine Transport, Service Bulletin, Cat. 50-002 XIE, June 2007.

are drivers. This is in sharp contrast to the percentage of drivers in urban transit and intercity passenger. The fleet in the school bus industry in 2007 is shown in table 3. The major part of the fleet 94.5% consists of school buses.

Table 3- School Bus Fleet 2007

School Bus Industry	Motor Coaches	School Buses	Urban Transit Buses	Other Rolling Stock	Total
	264	34,324	-	-	36,329

Table 4- School Bus Service Revenue 2007 (000)

	Scheduled Intercity	School Bus	Charter Bus	Total
School Bus Services	6597*	1,263,779	33,327	1,355,653

Source: Surface and Marine Transport, Service Bulletin, Cat. 50-002 XIE, June 2007. *Other transit ground passenger.

School bus revenues from various services are shown in table 4 below. In 2007, school bus services accounted for a major portion of their revenue 93.2%, whereas services from scheduled intercity and charter bus accounted for 0.5% and 2.5%.

d) Expenses and Net Income by School Bus Industries

Expenses and net income of the school bus industries for 2007 are shown in table 5. A major component (48.0%) is human resources. Other expenses are operating expenses and depreciation, vehicle energy expenses and vehicle

Table 5- School Bus Industry Expenses and Net Income 2007 (m)

	Human Expense	Total Expense	Total Revenue	Net Income
School Bus Industry	707	1472.1	1602.9	130.9

Source: Surface and Marine Transport, Service Bulletin, Cat. 50-002 XIE, June 2007.

maintenance. They account for 25.9%, 13.7% and 8.2%. Net income as a percent of total revenue is 8.2%. Statistics for all the bus industries are shown in the Appendix in table 5a.

e) School Bus Services by Region of Operation

School bus services (including school bus charter) by region of operation are shown in Table 6. Not unexpectedly, the provinces of Ontario and Québec account for a significant proportion (49.6% and 30.0% of the above noted oper-

Table 6 -School Bus Services by Region of Operation (Total Operating Revenue (m)) 2007

Bus Industry	Ont.	Que.	B.C.	Atlantic	Prairies	Canada
	758.3	459.0	43.2	38.6	230.2	1529.3

Source: Surface and Marine Transport, Service Bulletin, Statistics Canada, Cat. No. 50-001XIE, June 2007. *Yukon, N.W.T, & Nunavut are combined with the Prairies.

ating revenues. The total revenue by service differs marginally when compared to the total revenue by industry (i.e., $1,529 m vs. $1,603 m).

Table 7 - No. of school buses operated, students transported, annual route and funding 2007

	B.C.	Alberta	SK.	Man.	Ontario	Quebec	NB	NS
Publicly Operated	1,238		1,600	1,556	19	106	1,110	823
Privately Operated	580	5,000*	1,600	225	18,910	7,980	113	404
Students Transp.	-	243,234	48,000	60,000	800,000	608,573	92,000	90,200
Ann route dist (km) m.	-	-	43	33	354.5	-	26	19
Funding ($) m.	-	-	-	49	778.6	-	52.5	-

* This is the total consisting of 1,309 board owned, 2,756 fleet owned and 935 independent.
Source: School Bus, 2008 Canadian Fact Book, June 2008.

Public and private operated services are shown in Table 7 together with students transported and annual route distance. The number of public school districts in B.C., Alberta, Saskatchewan, Manitoba, Ontario, Quebec and New Brunswick are: 60, 60, 118, 56, 122, 69, and 18. School bus services by region are sometimes broken down further. For example, the Ontario School Bus Association has divided Ontario into eight geographic districts.

f) The Firms and Concentration in the School Bus Transportation Industry

The school bus industry in Canada consisted of 965 operators in 2007 (each with annual revenues of more than $200,000). Laidlaw Inc. entered the school transportation business in 1979 through acquisition of Travelways Ltd. in Ontario. After several acquisitions - Mayflower Contract Services, National School Bus Service, Charterways Transportation and Cancom Transportation, etc. - it became the largest school bus operator in Canada in 1994. Besides Laidlaw, the larger school bus operators include First Bus, Pacific Western and Stock Transportation. Most school bus operators also provide some charter service.

The major four manufacturers of school buses in Canada are: Blue Bird; Thomas Built Buses; Les Enterprises Michael Corbeil, Ltd.; and A. Girardin, Inc. Altold. They manufacture about 3500 school buses annually. In addition, import and export of school buses is made easy under NAFTA.

In sum, there is no unique definition of school bus or school bus service. The school bus industry or school bus service is a component of the bus industry or bus service sector. It accounts for 16% and 13.2% of the bus industry and bus service sector, respectively. The industry generated $1,602 million revenue in 2007 an increase of 150% over the period 1986-2007. The largest component of its revenue was from school bus services and Ontario and Quebec accounted for a significant proportion of school bus revenue. A major component of school bus expenses is on employees. In 2007, the school bus industry employed approximately 31,695 people most of whom were drivers. After 1979, the industry became more concentrated as a result of acquisitions by Laidlaw Inc. which made Laidlaw the largest school bus operator in Canada.

III. Regulation Pertaining to School Bus Operators

There are two basic types of regulations and rules that govern the school bus industry. First, the provincial highway transport laws, the regulations made pursuant to them and the rules made by the boards of education in each province. Second, specific federal regulations such as the *Motor Vehicle Transport Act, Motor Vehicle Safety Act* and general regulations such as the *Competition Act*.

a) Provincial

Provincial Laws - School bus transportation being an intraprovincial service falls under the jurisdiction of the provinces. Accordingly, provision of school bus transportation is covered under the highways acts of each province. These acts provide for vehicle safety and for enabling regulations.

Provincial regulations - The provincial regulations made pursuant to the above acts are more encompassing and provide for regulation in depth. In general, they differ in detail from province to province. However, they cover matters such as definition (e.g. school bus), school bus operation (insurance and standards), use of school bus, vehicle no longer used as a school bus, alteration of a school bus, prohibitions, and a variety of regulations when a school bus is in operation such as fuelling, loading and unloading, etc.

Rules - The rules made by the Board of Education cover a variety of issues and may differ from board to board. To illustrate what they are like those for the Calgary Board of Education are indicated. The following issues are covered in its rules: preamble, definition, what parents need to know, responsibilities of parents, responsibilities of students, principal's responsibilities, carrier's responsibilities, school bus driver's responsibilities, school bus rules and restricted items.

The carrier's responsibilities are described as follows: "The contracted bus carrier (a) is responsible for all school bus operations; and (b) is expected to comply with all relevant legislation; and (c) is expected to meet the responsibilities in the Calgary Board of Education 'Master Transportation Agreement' and yearly service agreements; and (c) to promptly notify the Manager of Transportation Services of any concerns."

Recently, the Canadian Standards Association in cooperation with industry, provincial and territorial officials developed the D-250-98 standards. It codifies school bus construction and is voluntarily adopted through regulation at the provincial level. It incorporates all the relevant Canadian Motor Vehicle Safety Standards along with other concepts. Its thrust is that it is illegal to sell a school bus in Canada that does not conform to the standard. It also incorporates operational standards which must be maintained as long as the school bus is in service.

To improve service, in 2006, the Ontario Ministry of Education announced reforms to school bus transportation of students. The objectives of the reform are to build capacity to deliver safe, effective and efficient student transportation service, achieve an equitable approach to funding and reduce the administrative burden of delivering transportation. The key reforms include: a requirement for consortia; a review of consortia based on effectiveness and efficiency of their operation; and a cost

benchmark study for school purpose vehicles.

b) Federal

Federal Laws - Transport Canada is responsible for setting new vehicle standards for school buses and is of particular interest to it. It conducts ongoing research into school bus safety issues and amends the existing safety standards as required. To date it has set 37 school bus safety standards, including such features as the strengthened steel beams which run the length of a school bus, a steel 'cage' around the fuel tank, the distinctive yellow and black colouring, the overhead flashing lights and 'stop arm'. Transport Canada also ensures that all school buses, whether domestically produced or imported meet the requirements of the *Motor Vehicle Safety Act*.

Besides the above regulations, the *Competition Act*, a law of general application, also applies to the school bus transportation. One provision that needs to be mentioned is the bid-rigging section as they were a few cases involving school bus transportation under this provision. It is contained in sections 47(1) to 47(3) of the *Competition Act* (originally sections 32.2 of the *Combines Investigation Act* with one minor amendment [1]). The above bid-rigging provision contains three sub-sections relating to: 1) definition, 2) offence, and 3) exception. To establish the offence, the two elements of the definition must be met together with the element of the exception. The two elements of the definition are a) proof of an agreement or arrangement {i.e., i) not to submit bids, or ii) in the submission of bids}, and b) the agreement or arrangement was not made known to the person calling the bids or requesting the bids at or before the time when the bids were made. The element in the exception is to show that the agreement or arrangement is not between affiliates.[2]

In sum, two basic types of regulations and rules govern the school bus industry: provincial and federal. The former provide for vehicle safety and enabling regulations and are more extensive as intraprovincial bus service falls under provincial jurisdiction. The latter provide standards and regulations of general application.

IV. Studies and market structure approach in the provision of School Bus Transportation Services

Expenditures on school bus transportation represent a significant proportion of all busing revenues and a significant proportion of the education budget. This has led to studies from time to time raising issues such as: the impact of subsidization of pupil transportation; the privatization of school bus services; and the most efficient way to provide school bus services – private contractors or school districts. The conclusions of these studies (though found to hold in the US are also typical for Canada) will briefly be summarized followed by a market structure approach.

a) Studies

1. Study by Marvin R. Brams: This study (1973) suggests that: a. self-financing pupil transportation programs may be more equitable and efficient than those financed from state and local general revenues; b. pupil transportation programs which determine the eligibility of pupils on the basis of distance discriminate against urban school systems in the receipt of state funds; c. urban school systems would benefit if the transportation subsidies were allocated to other educational programs; d. pupil transportation programs have a negative impact on the development of urban public transportation systems when the two are not regarded as interrelated.[3]

2. Studies by D. Bails, R. A McGuire & T. N. Van Cott, R. L. Ross, B. Hutchinson and L. Pratt, W. Harding, and W. Alspaugh: These studies (1979-1996) analyzed whether contractors or school districts provide pupil transportation service more efficiently. The first four found that private contractors were more efficient and the last two found that in-house provision was more efficient.

3. The KPMG Peat Marwick study: A study by KPMG (1993) examined 30 school districts in Washington and Oregon that had turned to privatization since 1980. The study surveyed the opinions of public officials in districts that used contracting, finding that in the areas of cost and quality, competitive contracting was generally deemed superior to district-operated service. Experience in mass transit provides additional evidence that pupil transportation is a good candidate for competitive contracting. Compared to public operators, competitively contracted bus service was found to generate long-term cost savings of between 24 and 43 percent in Los Angeles and approximately 26 percent in Denver.

4. Study by Sheryl Lazarus: This paper (2004) based on her thesis presents a cost function for the pupil transportation industry in Minnesota. In-house provision of transportation was not shown to be more costly than outsourcing. Large contractors may seek the most profitable contracts in urban and suburban areas, while showing little interest in contracting opportunities in rural school districts.[4]

5. Testimony of Geoffrey Segal: Mr. Segal (2004) believes that: first, school bus transportation is a local issue and best administered at that level; second, competition needs to be introduced into the provision of bus services. So the state should be out of day to day operations. He believes that this will result in: enhanced performance; a newer, safer bus fleet; more department and agency focus on core mission and goals; more accountability at the local level; more flexibility; more innovation; and lower costs. His experience indicates that competition, contracting out, privatization, or competitive contracting work provide high quality services while adding flexibility and

saving as much as twelve percent.[5]

6. Study by Owen Thompson: Mr. Thompson (2010) states sub-contracting student bus service to private firms has been advanced by some as a way to reduce transportation costs as student transportation makes up a substantial portion of a typical school district's operating budget. Previous studies have found conflicting evidence regarding the cost impact of privatization. This paper seeks to improve on previous studies by estimating cost equations using data that spans six school-years. The primary result is that privatization acts to substantially increase transportation costs. Estimates using a pooled cross section predicted that going from fully outsourced to fully in house reduced costs by approximately 15.8%, while the analogous estimate using a first-differenced equation was a savings of 20.7%.[6]

b) Market Structure Approach

A market structure approach refers to an examination of those characteristics of the organization of the market which influence strategically the nature of competition and pricing within it.[7] The market structure of an industry affects the ways firms are expected to operate. Firms engaged in selling are assumed to operate under three market structure scenarios (perfect competition, monopoly, or oligopoly). Each of these market structures are expected to generate different conduct and performance results. Under perfect competition, firms operate at the level that maximizes economic efficiency since customers pay a price that is equal to the cost of production. Under monopoly, firms operate at in inefficient manner from the welfare perspective. Under oligopoly, i.e., a condition of few firms, each firm is dependent upon the actions of other rival firms in the industry, but is uncertain about what actions rival firms will take and therefore develops strategies to respond to the actions of rivals. In such situations, where few firms dominate, it is generally believed that there may be barriers to entry, collusion, and retaliation. The school bus industry is considered to be characterized by these elements of oligopoly.

If this is correct, economic theory suggests that school bus transportation services may be operating in an inefficient manner due to the lack of competition and that private contracting may be able to provide services at a lower cost because competition is assumed to occur when contractors compete in the bidding of contracts.

But this assumption does not always hold. For example in the US, according to the minutes of the Minnesota Transportation Issues Study Committee:

"Members of the group stated that many times contractors do not bid on other districts' transportation services because they do not have facilities out of which to operate in the new district. Many times contractors do not aggressively bid on other districts'

transportation services because they become a target."
In Canada, there is also indication that this has sometimes occurred and even though collusion and bid-rigging is against the law, contractors have at times engaged in bid-rigging. So far three cases involving bid-rigging in the school bus transportation have occurred since 1978.[8] I shall briefly indicate how market conduct or behaviour (i.e., coordination - one type being bid rigging) has an impact on the market structure approach.
Bid-rigging is a scheme that often arises in market structures characterized by a single buyer and a few suppliers or not many suppliers. It raises the cost to the purchaser or the price that the tenderer (i.e. person who tenders) has to pay for the product. The rationale for bid-rigging is similar to that of price fixing in that under the cartel-monopoly theory, firms have an incentive to coordinate their production and pricing activities to increase their collective and individual profits by restricting market output and raising market price. This is because a firm's profits goes up when it forms a cartel even though competitive firms may be "maximizing their profits".[9] As each firm in the competitive situation ignores the increase in profits to other firms from a reduction of its own output, which it believes to be insignificant since it cannot affect price. In contrast, a cartel is able to capture the benefits of a reduction of output by its members. In view of the above, there is an incentive for cartel members to cheat once in a cartel, as at a higher price, each cartel member would like to sell more and would want to cheat by producing more than the cartel permits it to do. However, the economic analysis of bid-rigging differs from the analysis of price fixing in that "some bid-rigging cartels do not face the same 'instability' problem faced by price fixing cartels. For this reason, bid rigging seems to be more pervasive than price fixing."[10] Further, unlike the price-fixing cartel, in bid-rigging there is no immediate reduction in quantity sold to the bid-caller as a result of the higher price.
Bid-rigging ofcourse is not always uniform. There are four types of bid-rigging practices that have been identified as common occurrences: cover bidding, bid suppression, bid rotation and market division. 'Cover bidding' is a bidding which gives the impression or illusion of competitive bidding, but in reality, suppliers agree to submit token bids that are usually too high so that the contractor agreed to by the group wins.[11][12] ''Bid suppression'' among suppliers, either to refuse to bid, or to withdraw bids is another type of bid-rigging practice. This can arise either because of an independent decision, interdependent behaviour not resulting from an agreement or because of an express agreement.[13] ''Bid rotation'' is a process where the bidder obtains the bid on a systematic or rotating basis. The rotation or pattern of rotation

may be very simple or extremely complex and need not have developed through explicit agreement.[14][15] "Market division" among suppliers not to compete in designated geographic regions or for specific customers is the fourth type of possible bid-rigging practice. Regardless of the type of bid rigging, it results in a loss of consumer welfare and a transfer of gains from the purchaser to the bid-rigger.[16]

Since, the price is higher than would normally prevail, bid-rigging results in a loss of consumer welfare as some of the gains that should accrue to the purchaser are transferred to the sellers or bid-riggers, in addition the bid-rigger succeeds in extracting some of the remaining consumer surplus as a result of the higher price. Further, there could be a loss in total welfare if there is a potential reduction in future demand.[17] In sum, the economic rationale provides a sound foundation why this scheme is denounced by anti-trust authorities round the world.

Turning back to the issue of private contracting, if school boards or districts choose to adopt private contracting than in-house provision of school bus service they have to ensure that contractors compete in the bidding of contracts, as it would otherwise result in higher costs.

V. Do pupil transportation programs have a negative impact on the development of urban public transportation systems?

In the US, Federal transit laws and regulations place limitations on the use of public transportation to transport students to and from school and school sponsored activities and trips in competition with private transportation providers. This indicates that where the two (public and private) are substitutable, school bus transportation does have a negative impact on urban public transportation systems. While in US and Canada we have separate school bus transportation systems, the UK does not have a universal school bus system as most students use scheduled bus transportation.

If we want to encourage use of public urban transportation do we need alternatives? If it more economical to transport students using public transportation, not only would we increase ridership on public transits but also permit more money to flow towards the primary mission of education. It could also reduce road congestion and pollution.

VI. Concluding Remarks

There is no unique definition of school bus or school bus service. The school bus industry or school bus service is a component of the bus industry or bus service sector accounting for 16% of the bus industry. The industry generated $1,602 million revenue in 2007 an increase of 150% over the period 1986-2007. The largest component of its revenue was from school bus services and Ontario and Quebec accounted for a significant proportion of school bus revenue. A major component of

school bus expenses is on employees. In 2007, the school bus industry employed approximately 31,695 people most of whom were drivers. After 1979, the industry became more concentrated as a result of acquisitions by Laidlaw Inc. which made Laidlaw the largest school bus operator in Canada. Laidlaw Inc. entered the school transportation business in 1979 through acquisition of Travelways Ltd. in Ontario. After several acquisitions - Mayflower Contract Services, National School Bus Service, Charterways Transportation and Cancom Transportation, etc. - it became the largest school bus operator in Canada in 1994.

Two basic types of regulations and rules govern the school bus industry: provincial and federal. The former provide for vehicle safety and enabling regulations and are more extensive as intraprovincial bus service falls under provincial jurisdiction. There are also some rules established by Boards of Education, school districts, etc. The latter provide standards and regulations of general application.

Studies from time to time have raised issues such as: the impact of subsidization of pupil transportation; the privatization of school bus services; and the most efficient way to provide school bus services (private contractors or school districts), given, the size of transportation in the education budget and as it permits more money to flow towards the primary mission of education. More recently, a market structure approach to the study of the school bus industry has emerged. The market structure of an industry affects the ways firms are expected to operate and the school bus industry is considered to be characterized by these elements of oligopoly. If this is correct, economic theory suggests that school bus transportation services may be operating in an inefficient manner due to the lack of competition and that private contracting may be able to provide services at lower cost because competition is assumed to occur when contractors compete in the bidding of contracts. But this may not occur if contractors do not wish to bid for whatever reason – lack of facilities elsewhere, fear of retaliation, etc. In Canada, there is indication that this has sometimes occurred and even though collusion and bid-rigging is against the law, contractors have at times engaged in bid-rigging. Even from an economic standpoint, it results in a loss of consumer welfare and could also result in a loss of total welfare.

In a wider transportation context, questions are being raised as to whether pupil transportation programs have a negative impact on the development of urban public transportation systems.

Bibliography

1. *Transportation in Canada 2006*, Annual Report, TI-10/2006E, pp. 60-62.
2. *School Bus, 2008 Canadian Fact Book*, June 2008.

Endnotes

[1] The present version of this provision has "or" between paragraphs (a) and (b). The original version had "and" between the two paragraphs. This created the possibility of a misinterpretation as it required the establishment of two contradictory facts and was therefore inherently illogical. See Roberts, Jack, *Anticombines and Antitrust*, Butterworths, Toronto, 1980, pp. 144-145 and *R. v. Charterways Transportation Ltd. et al.* (1981).

[2] 47. (1) In this section, "bid-rigging" means

(a) an agreement or arrangement between or among two or more persons whereby one or more of those persons agrees or undertakes not to submit a bid in response to a call or request for bids or tenders, or

(b) the submission, in response to a call or request for bids or tenders, of bids or tenders that are arrived at by agreement or arrangement between or among two or more bidders or tenderers,

where the agreement or arrangement is not made known to the person calling for or requesting the bids or tenders at or before the time when any bid or tender is made by any person who is party to the agreement or arrangement.

47. (2) Every one who is party to bid-rigging is guilty of an indictable offence and liable on conviction to a fine in the discretion of the court or to imprisonment for a term not exceeding five years or to both

47. (3) This section does not apply in respect of an agreement or arrangement that is entered into or a submission that is arrived at only by companies each of which is, in respect of every one of the others, an affiliate.

[3] The economics of state subsidized pupil transportation programs and their impact on urban school finances and public transportation, Atlantic Economic Journal, Volume 1, Number 1, November 1973.

[4] Pupil Transportation: the Impact of Market Structure on Efficiency in Rural, Suburban, and Urban School Districts in Minnesota, Paper prepared for presentation at the American Agricultural Economics Association Meeting, Denver, Colorado, August 1-4, 2004.

[5] Privatizing School Bus Services in South Carolina, Testimony to South Carolina School Bus Privatization Committee, October 18, 2004.

[6] Thompson, Owen, *The estimated cost impact of privatizing student transportation in Minnesota school districts*, Public Choice, January 2010.

[7] These are briefly categorized as: degree of seller concentration; degree of buyer concentration ; degree of product differentiation; and the condition of entry. See Joe Bain, *Industrial Organization*.

[8] a) In 1978, an inquiry was initiated into the supply of school bus services in Peel, Ontario following a complaint of bid-rigging by Charterways Co. Limited., Travelways School Transit Ltd., Lorne Wilson Transportation Limited, and Arthur Elen. Charges were laid and all of the defendants were convicted and fined on May 25, 1981. b) A few years later in 1982, an inquiry was commenced because the Association du Transport Ecolier du Quebec had engaged in bid rigging (s. 47) in request for tenders from the Commission scolaire regionale de Charlevoix. The Association pleaded guilty and was fined $23,000 with a prohibition order. c) Several years later in 2005, the Competition Bureau received a complaint about alleged bid-rigging following a school board's call for tenders for school bus transportation in the Quebec City region. However, evidence of collusion among the bidders was not found and the matter was resolved after a meeting.

[9] Assuming a competitive case. See Carlton, Dennis W., and Perloff, Jeffrey M., *Modern Industrial Organization*, 1990, p. 233.

[10] Froeb, Luke, ""Auctions and Antitrust,"" *Economic Analysis Group Discussion Paper 88-8*, U.S. Department of Justice, Antitrust Division, August 22, 1988.

[11] *Road Paving in Ontario*, Restrictive Trade Practices Commission, Department of Consumer and Corporate Affairs Canada, RTPC No. 49, 1970, p. 23.

[12] *Id.*, p. 30.

[13] Areeda, E. Phillip, *Antitrust Law*, An Analysis of Antitrust Principles and Their Application, Volume VI, Little, Brown and Company, 1986, p. 123.
[14] *United States v. Champion Intl. Corp*., 1975 Trade Cases No. 60453 (D. Or.), aff"d, 557 F. 2d 1270 (9th Cir.), cert. denied, 434 U.S. 938 (1977).
[15] See Areeda, p. 154.
[16] For further discussion see Areeda, pp. 154-156. A Canadian example of a market sharing agreement in a conspiracy case can be found in *R. v. Atlantic Sugar Refineries Co. Ltd.*
[17] Unless the demand curve is perfectly inelastic.

APPENDIX 1

Table 1a - The Bus Industry by Segments (1986-2005) – Revenue (m)/Establishments

Bus Industry	**1986**	**1995**	**2000**	**2007**
Urban Transit	2,283/2,923.2 *	3,579.7/3,435.4 *	4,265.7/3,758.3*	7,184.6/
Intercity Bus	336/430.2*	367.9/353.1*	127.6/112.4*	664.5/
School Bus	640/819.5*	1,052.6/1,010.2 *	1,459.6/1,286*	1,602.9/
Charter Bus	154/197.2*	243.2/233.4*	378.4/333.4*	499.5/
Total Revenue	3,413/4,370*	5, 243.4/5,032*	6,231.4/5,490.2*	10,232.0/
Total Estabs.**	960	878	968	1,446

Source: Passenger Bus and Urban Transit Statistics, Statistics Canada, 53-215-XIB. * Converted to 1992 dollars. ** Revenues $200000+.

Table 4a - Types of Bus Services and Revenue From Services 2007 (m)

Industry \ Service	Urban	Sch-eduled	School	Charters	X Parcel	Other	Total	Sub-sidies
Urb Transit	**2612.1**	x	x	4.8	x	**127.4**	2777.1	4433.4
Intercity Bus	x	**399.4**	x	53.6	109.1	3.9	457.5	x
School Bus	x	x	**1263.7**	197.9	x	61.1	1355.8	8.9
Charter Bus	8.8	38.4	33.3	**360.5**	4.4	43.5	693.8	3.1
All Other	66.8	x	6.7	72.7	x	11.5	254.8	109.8

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Source: Surface and Marine Transport, Service Bulletin, Statistics Canada, Cat. No. 50-001XIE, June 2007.*All other includes: Other transit shuttle, sightseeing and other industries.

Table 5a – Bus Industry Expenses and Net Income 2007 (m)

	Urban Transit	Intercity Bus	School Bus	Charter Bus	All Other*	Total
Human Exp.	3505.9	289.4	707.4	177.5	98.7	4779.0
Tot Exp	5292.0	658.7	1472.1	461.0	150.4	7341.3
Tot Rev.	7184.6	664.5	1602.9	499.5	160.1	10111.6
Net In	2.5	.8	130.8	38.5	9.7	2077.3