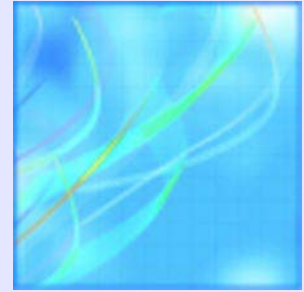


# Service Bulletin - Surface and Marine Transport Results of the Annual Motor Carriers of Freight Survey of Small For-hire Carriers and Owner Operators



2005

## Highlights

### Small for-hire carriers:

- In 2005, there were 7,067 small for-hire carriers with less than \$1 million in revenue. These represented 63% of carriers in the for-hire carriers segment.
- Small for-hire carriers generated total operating revenues of \$2.1 billion, for a \$300,800 per carrier average. Overall, small for-hire carriers generated 7% of total revenue for the sector.
- Small for-hire carriers operating expenses totalled \$2.0 billion or about \$286,000 per carrier. Their main operating expenditures were salaries, wages and benefits representing 24% of total expenses, fuel cost (20%) and other expenses (20%).
- Compared to the previous year, total operating revenues improved 6%, while total operating expenses increased 7%.
- Intra-provincial movements were responsible for 69% of the total operating revenue (\$1.46 billion). These movements were followed by international movements which represented 22% of total revenues (\$477 million). Interprovincial movements were responsible for 9% of total revenues (\$186 million).
- A little more than half (59%) of these carriers were specialized in long-distance transportation. This activity generated 54% of all operating revenues for small for-hire carriers.
- Geographically, Ontario was home to the largest number of small for-hire carriers with 39% of the Canadian carriers, followed by Quebec with 23% and Alberta with 12%.
- Small for-hire carriers reported an average of four employees of which 77% were full-time employees. In addition, they operated an average one straight truck, two road tractors and two semi-trailers.

### Owner operators :

- In 2005, there were 37,591 trucking firms who self-identified as owner operators. Of these carriers, 99% reported revenues less than \$1 million.
- Overall, owner operators generated \$7.77 billion in operating revenues, about \$207,000 per carrier.
- Compared to the previous year, total operating revenues improved 4%, while total operating expenses increased 5%.

- Operating expenses for these carriers totalled \$7.1 billion, or \$189,000 per carrier. The main operating expenses incurred by owner operators were fuel expenses (25%) and salaries, wages and benefits (23%) and other expenses (20%).
- Almost three out of four owner operators offered their services exclusively to for-hire carriers, while 23% of them worked exclusively for private carriers.
- Intra-provincial movements accounted for 67% of the total operating revenues generated by owner operators (\$5.19 billion). These were followed by international movements with 23% (\$1.75 billion) of revenues and interprovincial movements were the source of 11% (\$833 millions) of overall revenues.
- The majority of owner operators (52%) specialized in long distance transportation. This type of transportation service generated 54% of operating revenues.
- Ontario was home to the largest number of owner operators with 35% of all Canadian carriers, followed by Quebec (21%) and Alberta (16%).
- The average owner operators firm has two employees and operated one road tractor.

## Analysis

### Annual Motor Carriers of Freight Survey of Small For-hire Carriers and Owner Operators: Financial and Operating Statistics, 2005

#### Introduction

The Annual Motor Carriers of Freight Survey (AMCFS) provides information on the structure and performance of two distinct groups of carriers located in Canada: small for-hire carriers and owner operators.

**Small for-hire carriers** are carriers with annual operating revenues between \$30,000 and \$1 million. Combined with AMCFS data on medium and large carriers with revenues of \$1 million or more, this information helps to provide a more complete picture of the for-hire trucking industry.

**Owner operators** are independent operators who provide transport services under contract to for-hire carriers, private carriers, or both.<sup>1</sup> While most owner operators are small businesses, the data in this publication cover all those that generated revenues of \$30,000 or more in 2005. Thus, the estimates will likely include some owner operators who generated revenues of \$1 million or more in 2005.

The financial estimates for the survey (revenue and expense data) are based on administrative files from the Tax Estimates Program. The other types of data (on activities, territory served, employment, equipment, fuel and distance) are collected through computer-assisted telephone interviews.

The publication is in three parts: section 1 contains results for small for-hire carriers, section

#### Data limitations

Users are advised that financial data used in this article were taken from administrative records (tax files), which were not collected for statistical purposes. The financial data are compiled by Statistics Canada from a sample of Canada Revenue Agency T1 records of unincorporated firms' tax files and T2 records of incorporated firms' tax files.

Furthermore, operating ratios are not presented because they could be misinterpreted. Unincorporated businesses do not report labour costs in the same manner as incorporated ones on their tax returns. This is because working owners obtain their remuneration from profits, and they do not appear as expenses in the same way as salaries and wages do for incorporated companies. Also, fuel costs may have been reported under more than one expense category or may not be obtainable from the source of tax data. The result is an underestimation of total expenses, which would distort any calculated operating ratio.

1. A **private carrier** is one for which trucking is not the main activity, but which owns or leases vehicles for the primary purpose of hauling its own goods. Private trucking is not part of the for-hire trucking industry. Note that, following persistent problems with data quality, the private carrier trucking survey was discontinued after reference year 1998. Since that date, therefore, it has no longer been possible to obtain data on this segment of the trucking industry.

## Statistical Tables

**Table 1**  
**Summary statistics by size, for-hire carriers, 2005**

	Small carriers \$30,000 <sup>4</sup> to \$999,999	Medium and large carriers \$1 million <sup>5</sup> to \$24.9 million	Top carriers \$25 million and over	Total
Estimated number of carriers (No.)	7,067	4,079	91	11,237
	millions of dollars			
<b>Operating revenues</b>	<b>2,126</b>	<b>20,280</b>	<b>8,384</b>	<b>30,790</b>
<b>Operating expenses</b>	<b>2,020</b>	<b>18,719</b>	<b>7,765</b>	<b>28,504</b>
Salaries and wages <sup>1</sup>	487	5,202	1,911	7,600
Fuel	413	2,461	646	3,520
Owner operator expenses	92	3,650	2,098	5,840
Purchased transport <sup>2</sup>	231	1,798	1,317	3,346
Maintenance	193	1,500	389	2,083
Depreciation	190	1,106	318	1,614
Other expenses <sup>3</sup>	413	3,002	1,086	4,501
<b>Operating ratio (%)</b>	...	<b>0.92</b>	<b>0.93</b>	...
<b>Number of employees (No.)</b>	<b>24,769</b>	<b>123,929</b>	<b>40,082</b>	<b>188,780</b>
<b>Equipment operated (No.)</b>				
Straight trucks	3,697	13,150	1,549	18,396
Road tractors	12,470	64,466	16,403	93,339

1. Includes employee benefits.

2. Includes driver services, vehicle lease or rent, total purchased transportation and load broker services.

3. Includes terminal expenses and other operating expenses (insurance, administration, etc.).

4. See methodology in Section 3.

5. Includes carriers from the Annual survey of small for-hire carriers and owner operators with annual operating revenues greater than \$1 million.

**Note(s):** Totals may not add due to rounding. Data for top, medium and large carriers are collected from the Quarterly motor carriers of freight survey while the small carriers data are from the Annual survey of small for-hire carriers and owner operators.

**Table 2**  
**Summary statistics by type of activity, small for-hire carriers, 2005**

	Total	General freight	Household	Bulk liquids	Dry bulk materials	Forest products	Other commodities
Estimated number of carriers (No.)	7,068	3,066	155	491	1,419	582	1,355
	thousands of dollars						
<b>Operating revenues</b>	<b>2,126,366</b>	<b>721,948</b>	<b>51,352</b>	<b>180,178</b>	<b>364,109</b>	<b>194,707</b>	<b>614,072</b>
<b>Operating expenses</b>	<b>2,020,071</b>	<b>677,832</b>	<b>50,308</b>	<b>171,446</b>	<b>347,893</b>	<b>190,309</b>	<b>582,283</b>
Salaries and wages	481,971	161,380	13,535	54,564	77,153	50,257	125,082
Benefits	5,448	2,145	162	334	698	670	1,439
Fuel	412,991	136,231	7,352	32,450	70,511	39,167	127,280
Owner operator expenses	91,833	49,960	125	155	12,392	404	28,797
Purchased transport	231,212	64,316	7,378	25,926	43,498	17,585	72,509
Maintenance	193,269	66,194	2,990	11,339	39,705	33,697	39,344
Depreciation	190,409	63,211	3,866	18,131	40,708	20,880	43,613
Insurance	72,180	19,922	1,434	5,525	11,821	9,253	24,225
Rent	72,972	24,663	2,672	5,183	9,110	4,020	27,324
Other expenses	267,786	89,809	10,794	17,840	42,297	14,375	92,671
<b>Full time employees (No.)</b>	<b>19,192</b>	<b>8,060</b>	<b>1,177</b>	<b>1,432</b>	<b>3,431</b>	<b>1,190</b>	<b>3,902</b>
<b>Equipment operated (No.)</b>	<b>31,416</b>	<b>12,665</b>	<b>1,220</b>	<b>2,258</b>	<b>5,749</b>	<b>2,492</b>	<b>7,032</b>
Straight trucks (No.)	3,698	819	333	452	1,488	76	530
Distance travelled ('000 km)	189,084	52,463	15,955	21,363	68,549	5,068	25,686
Average distance ('000 km)	51	64	48	47	46	67	48
Road tractors (No.)	12,470	5,889	334	729	1,658	1,016	2,844
Distance travelled ('000 km)	1,319,485	548,451	22,042	82,065	177,599	122,035	367,293
Average distance ('000 km)	106	93	66	113	107	120	129
Semi-trailers (No.)	13,180	5,103	538	1,004	2,076	1,216	3,243
Other (No.)	2,070	856	15	73	527	184	415
<b>Total distance ('000 km)</b>	<b>1,508,570</b>	<b>600,914</b>	<b>37,998</b>	<b>103,427</b>	<b>246,148</b>	<b>127,103</b>	<b>392,980</b>
<b>Fuel consumed ('000 L)</b>	<b>629,740</b>	<b>228,240</b>	<b>15,672</b>	<b>45,000</b>	<b>113,018</b>	<b>58,900</b>	<b>168,910</b>

**Note(s):** Some totals may not add due to rounding.

**Table 3**  
**Summary statistics by type of activity, local transport<sup>1</sup>, small for-hire carriers, 2005**

Local carriers	Total	General freight	Bulk liquids	Dry bulk materials	Forest products	Other commodities
Estimated number of carriers (No.)	2,749	716	305	958	301	469
	thousands of dollars					
<b>Operating revenues</b>	<b>934,610</b>	<b>299,562</b>	<b>105,205</b>	<b>243,703</b>	<b>103,822</b>	<b>182,318</b>
<b>Operating expenses</b>	<b>896,399</b>	<b>291,614</b>	<b>102,385</b>	<b>232,522</b>	<b>101,658</b>	<b>168,220</b>
Salaries and wages	234,949	77,878	38,073	54,655	27,087	37,256
Benefits	3,694	1,796	125	447	425	901
Fuel	160,690	56,402	16,061	47,174	18,729	22,324
Owner operator expenses	42,991	27,505	155	9,329	404	5,598
Purchased transport	133,268	38,827	14,161	24,059	11,347	44,874
Maintenance	80,765	19,557	5,067	27,242	17,364	11,535
Depreciation	89,124	18,822	11,735	30,112	10,670	17,785
Insurance	30,606	10,848	2,167	7,848	4,548	5,195
Rent	28,102	9,512	4,340	6,750	2,901	4,599
Other expenses	92,207	30,468	10,501	24,905	8,183	18,150
<b>Full time employees (No.)</b>	<b>7,727</b>	<b>2,643</b>	<b>893</b>	<b>2,209</b>	<b>616</b>	<b>1,366</b>
<b>Equipment operated (No.)</b>	<b>12,430</b>	<b>4,068</b>	<b>1,479</b>	<b>3,545</b>	<b>1,064</b>	<b>2,274</b>
Straight trucks (No.)	2,781	739	398	1,181	63	400
Distance travelled ('000 km)	147,087	46,955	19,230	60,454	3,335	17,113
Average distance ('000 km)	53	64	48	51	53	43
Road tractors (No.)	3,786	1,290	354	906	444	792
Distance travelled ('000 km)	366,467	112,893	32,176	73,722	54,297	93,379
Average distance ('000 km)	97	88	91	81	122	118
Semi-trailers (No.)	5,108	1,861	705	1,031	491	1,020
Other (No.)	757	177	23	428	67	62
<b>Total distance ('000 km)</b>	<b>513,556</b>	<b>159,848</b>	<b>51,406</b>	<b>134,177</b>	<b>57,632</b>	<b>110,493</b>
<b>Fuel consumed ('000 L)</b>	<b>232,038</b>	<b>64,433</b>	<b>22,208</b>	<b>61,043</b>	<b>28,508</b>	<b>55,846</b>

1. Excludes household goods movers.

**Note(s):** Some totals may not add due to rounding.

**Table 4**  
**Summary statistics by type of activity, long-distance transport<sup>1</sup>, small for-hire carriers, 2005**

Long distance carriers	Total	General freight	Bulk liquids	Dry bulk materials	Forest products	Other commodities
Estimated number of carriers (No.)	4,163	2,349	186	461	281	886
	thousands of dollars					
<b>Operating revenues</b>	<b>1,140,402</b>	<b>422,385</b>	<b>74,973</b>	<b>120,406</b>	<b>90,885</b>	<b>431,753</b>
<b>Operating expenses</b>	<b>1,073,364</b>	<b>386,217</b>	<b>69,061</b>	<b>115,371</b>	<b>88,652</b>	<b>414,063</b>
Salaries and wages	233,487	83,502	16,491	22,497	23,171	87,826
Benefits	1,594	349	210	251	246	538
Fuel	244,948	79,829	16,388	23,337	20,438	104,956
Owner operator expenses	48,716	22,455	0	3,063	0	23,198
Purchased transport	90,567	25,489	11,765	19,439	6,239	27,635
Maintenance	109,515	46,637	6,272	12,464	16,333	27,809
Depreciation	97,416	44,388	6,395	10,596	10,210	25,827
Insurance	40,140	9,074	3,358	3,973	4,705	19,030
Rent	42,198	15,152	843	2,360	1,119	22,724
Other expenses	164,786	59,342	7,339	17,392	6,192	74,521
<b>Full time employees (No.)</b>	<b>10,287</b>	<b>5,417</b>	<b>539</b>	<b>1,222</b>	<b>573</b>	<b>2,536</b>
<b>Equipment operated (No.)</b>	<b>17,767</b>	<b>8,598</b>	<b>779</b>	<b>2,204</b>	<b>1,428</b>	<b>4,758</b>
Straight trucks	584	79	55	307	13	130
Distance travelled ('000 km)	26,042	5,508	2,133	8,095	1,733	8,573
Average distance ('000 km)	45	70	39	26	133	66
Road tractors (No.)	8,351	4,598	376	753	572	2,052
Distance travelled ('000 km)	930,974	435,558	49,888	103,877	67,737	273,914
Average distance ('000 km)	111	95	133	138	118	133
Semi-trailers (No.)	7,534	3,242	299	1,045	725	2,223
Other (No.)	1,297	678	50	99	117	353
<b>Total distance ('000 km)</b>	<b>957,017</b>	<b>441,066</b>	<b>52,021</b>	<b>111,972</b>	<b>69,471</b>	<b>282,487</b>
<b>Fuel consumed ('000 L)</b>	<b>382,031</b>	<b>163,807</b>	<b>22,792</b>	<b>51,975</b>	<b>30,392</b>	<b>113,065</b>

1. Excludes household goods movers.

**Note(s):** Some totals may not add due to rounding.

**Table 5**  
**Summary statistics by type of movement, small for-hire carriers, 2005**

	Intraprovincial carriers	Extraprovincial carriers						
		Total	Intraprovincial	Interprovincial	International			
					Sub <sup>1</sup> total	Into Canada	Out of Canada	
Estimated number of carriers (No.)	3,843	3,224	...	...	...	...	...	
			thousands of dollars					
<b>Operating revenues</b>	<b>1,030,092</b>	<b>1,096,273</b>	<b>432,644</b>	<b>186,212</b>	<b>477,417</b>	<b>283,313</b>	<b>194,104</b>	
<b>Operating expenses</b>	<b>972,480</b>	<b>1,047,591</b>	<b>416,901</b>	<b>179,764</b>	<b>450,926</b>	<b>267,525</b>	<b>183,401</b>	
Transportation expenses	720,325	761,061	318,179	135,463	307,419	182,462	124,957	
Maintenance and garage expenses	112,536	80,733	31,185	16,390	33,158	17,677	15,481	
Administrative and general office expenses	139,619	205,797	67,536	27,911	110,350	67,387	42,963	
<b>Full time employees (No.)</b>	<b>8,638</b>	<b>10,555</b>	...	...	...	...	...	
<b>Salaries and wages (\$'000)</b>	<b>239,731</b>	<b>242,239</b>	...	...	...	...	...	
			number					
<b>Equipment operated</b>	<b>15,127</b>	<b>16,290</b>	...	...	...	...	...	
Straight trucks	2,983	714	...	...	...	...	...	
Road tractors	5,373	7,098	...	...	...	...	...	
Semi-trailers	5,267	7,913	...	...	...	...	...	
Other	1,505	564	...	...	...	...	...	

**Note(s):** Total may not add due to rounding.

**Table 6**  
**Summary statistics by province or territory of domicile, small for-hire carriers, 2005**

	Canada	Newfoundland and Labrador	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario
Estimated number of carriers (No.)	7,067	49	x	129	126	1,592	2,728
	thousands of dollars						
<b>Operating revenues</b>	<b>2,126,365</b>	<b>13,919</b>	<b>x</b>	<b>46,121</b>	<b>34,559</b>	<b>522,504</b>	<b>643,464</b>
<b>Operating expenses</b>	<b>2,020,071</b>	<b>13,083</b>	<b>x</b>	<b>44,582</b>	<b>35,608</b>	<b>485,117</b>	<b>627,542</b>
Salaries and wages	481,970	3,593	x	9,734	8,883	123,720	122,405
Benefits	5,449	x	x	125	135	2,560	652
Fuel	412,991	4,181	x	12,471	8,166	87,989	130,637
Owner operator expenses	91,833	x	x	1,770	131	30,056	29,782
Purchased transport	231,213	450	x	4,844	3,059	31,680	102,950
Maintenance	193,269	1,285	x	4,712	4,845	65,147	61,721
Depreciation	190,408	1,263	x	3,753	5,789	45,408	61,297
Insurance	72,180	587	x	1,884	1,279	15,154	17,756
Rent	72,972	439	x	570	490	14,828	20,022
Other expenses	267,786	x	x	4,719	2,832	68,575	80,322
<b>Full time employees (No.)</b>	<b>19,193</b>	<b>121</b>	<b>x</b>	<b>368</b>	<b>615</b>	<b>5,572</b>	<b>5,851</b>
	Manitoba	Saskat- chewan	Alberta	British Columbia	Yukon	Northwest Territories	Nunavut
Estimated number of carriers (No.)	119	301	856	1,142	x	x	0
	thousands of dollars						
<b>Operating revenues</b>	<b>52,339</b>	<b>75,173</b>	<b>317,219</b>	<b>413,914</b>	<b>x</b>	<b>x</b>	<b>0</b>
<b>Operating expenses</b>	<b>49,375</b>	<b>74,781</b>	<b>301,894</b>	<b>381,106</b>	<b>x</b>	<b>x</b>	<b>0</b>
Salaries and wages	11,914	19,486	80,906	99,302	x	x	0
Benefits	164	198	976	635	x	x	0
Fuel	16,132	16,852	52,750	82,179	x	x	0
Owner operator expenses	828	2,869	13,489	12,657	x	x	0
Purchased transport	2,329	10,204	40,433	35,112	x	x	0
Maintenance	4,685	6,992	21,601	21,737	x	x	0
Depreciation	4,117	6,064	35,376	26,971	x	x	0
Insurance	2,015	3,513	12,429	17,185	x	x	0
Rent	2,031	2,094	8,160	24,194	x	x	0
Other expenses	5,160	6,510	35,773	61,133	x	x	0
<b>Full time employees (No.)</b>	<b>393</b>	<b>532</b>	<b>3,113</b>	<b>2,595</b>	<b>x</b>	<b>x</b>	<b>0</b>

**Note(s):** Some totals may not add due to rounding.



**Table 7**  
**Number of employees by owned and leased vehicle and by province or territory of domicile, small for-hire carriers, 2005**

	Canada	Newfoundland and Labrador	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario
	number						
Estimated number of carriers	7,067	x	x	129	126	1,592	2,728
<b>Employees</b>							
Drivers							
Full time	14,662	x	x	316	462	3,780	4,727
Part time	2,987	x	x	69	87	910	641
Other employees							
Full time	4,531	x	x	52	152	1,792	1,123
Part time	2,588	x	x	27	26	907	659
<b>Total - drivers and other employees</b>							
<b>Full time</b>	<b>19,193</b>	<b>x</b>	<b>x</b>	<b>368</b>	<b>615</b>	<b>5,572</b>	<b>5,851</b>
<b>Part time</b>	<b>5,576</b>	<b>x</b>	<b>x</b>	<b>96</b>	<b>112</b>	<b>1,817</b>	<b>1,300</b>
	Manitoba	Saskat- chewan	Alberta	British Columbia	Yukon	Northwest Territories	Nunavut
	number						
Estimated number of carriers	119	301	856	1,142	x	x	0
<b>Employees</b>							
Drivers							
Full time	301	464	2,378	2,099	x	x	0
Part time	26	86	641	498	x	x	0
Other employees							
Full time	92	68	735	496	x	x	0
Part time	64	261	274	331	x	x	0
<b>Total - drivers and other employees</b>							
<b>Full time</b>	<b>393</b>	<b>532</b>	<b>3,113</b>	<b>2,595</b>	<b>x</b>	<b>x</b>	<b>0</b>
<b>Part time</b>	<b>90</b>	<b>346</b>	<b>915</b>	<b>829</b>	<b>x</b>	<b>x</b>	<b>0</b>

**Note(s):** Some totals may not add due to rounding.

**Table 8**  
**Equipment operated by province or territory of domicile, small for-hire carriers, 2005**

	Owned and leased				Total
	Straight trucks	Road tractors	Semi-trailers	Other equipment	
	number				
Newfoundland and Labrador	x	x	x	x	x
Prince Edward Island	5	26	35	0	66
Nova Scotia	67	273	334	13	687
New Brunswick	14	476	883	27	1,400
Québec	1,199	2,607	3,236	344	7,387
Ontario	966	4,415	3,438	773	9,592
Manitoba	47	268	422	22	760
Saskatchewan	51	478	523	17	1,069
Alberta	826	2,012	2,367	392	5,598
British Columbia	510	1,778	1,798	478	4,564
Yukon	x	x	x	x	x
Northwest Territories	x	x	x	x	x
Nunavut	0	0	0	0	0
<b>Canada</b>					
Owned and leased	3,697	12,470	13,180	2,069	31,416
Operated by owner operator	498	4,065	2,024	25	6,611

**Note(s):** Some totals may not add due to rounding.

**Table 9**  
**Estimated annual distance travelled by owned and leased vehicle and by province or territory of domicile, small for-hire carriers, 2005**

	Total	Straight trucks	Road tractors
	thousands kilometres		
Newfoundland and Labrador	12,797	x	x
Prince Edward Island	3,280	91	3,189
Nova Scotia	35,285	3,026	32,259
New Brunswick	60,279	780	59,499
Quebec	323,783	47,749	276,034
Ontario	460,759	59,791	400,968
Manitoba	39,628	2,465	37,163
Saskatchewan	57,327	2,561	54,766
Alberta	241,687	38,583	203,104
British Columbia	272,213	33,422	238,791
Yukon	1,332	x	x
Northwest Territories	200	x	x
Nunavut	0	0	0
<b>Canada</b>	<b>1,508,570</b>	<b>189,085</b>	<b>1,319,485</b>

**Note(s):** Some totals may not add due to rounding.

**Table 10**  
**Summary statistics, owner operators, 2001 to 2005**

	2005	2004	2003	2002	2001
Estimated number of owner operators (No.)	37,591	35,609	36,281	35,085	35,931
	thousands of dollars				
<b>Operating revenues</b>	<b>7,769,747</b>	<b>7,443,278</b>	<b>7,397,099</b>	<b>7,023,352</b>	<b>6,598,667</b>
<b>Operating expenses</b>	<b>7,122,068</b>	<b>6,771,732</b>	<b>6,761,844</b>	<b>6,566,395</b>	<b>5,935,630</b>
Salaries and wages	1,568,729	1,465,703	1,539,416	1,511,473	1,339,347
Benefits	35,379	27,790	25,105	32,455	22,420
Fuel	1,750,750	1,719,729	1,460,718	1,595,854	1,539,092
Owner operator expenses	0	0	0	0	0
Purchased transport	848,650	721,180	845,089	744,175	571,852
Maintenance	768,567	774,732	740,397	618,103	601,029
Depreciation	737,157	676,058	716,735	789,964	769,132
Insurance	291,962	296,424	252,684	248,801	217,338
Rent	236,837	240,164	223,703	246,777	172,929
Other expenses	884,038	849,953	957,998	778,792	702,491
<b>Full time employees <sup>1</sup>(No.)</b>	<b>60,765</b>	<b>58,604</b>	<b>62,518</b>	<b>62,400</b>	<b>60,799</b>
<b>Equipment operated (No.)</b>	<b>86,949</b>	<b>84,125</b>	<b>87,925</b>	<b>90,048</b>	<b>83,744</b>

1. Working owner included.

**Note(s):** Some totals may not add due to rounding.

**Table 11**  
**Distribution of owner operators by carrier types and by region of domicile, owner operators, 2005**

	Owner operator working for			Total
	For-hire carriers	Private carriers	Both	
	number			
Atlantic	x	x	x	2,290
Quebec	6,018	1,799	254	8,071
Ontario	8,670	3,921	626	13,217
Prairies	6,701	1,642	832	9,175
British Columbia Territories	3,419	731	642	4,792
	x	x	x	45
<b>Canada</b>	<b>26,497</b>	<b>8,574</b>	<b>2,519</b>	<b>37,590</b>

**Note(s):** Some totals may not add due to rounding.

**Table 12**  
**Summary statistics by size, owner operators, 2005**

	Total	Small enterprises (\$30,000 to \$999,999)	Medium and large enterprises (\$1 million and over)
Estimated number of owner operators (No.)	37,591	37,092	499
	thousands of dollars		
<b>Operating revenues</b>	<b>7,769,747</b>	<b>6,911,682</b>	<b>858,065</b>
<b>Operating expenses</b>	<b>7,122,068</b>	<b>6,307,037</b>	<b>815,032</b>
Salaries and wages <sup>1</sup>	1,604,108	1,403,076	201,032
Fuel	1,750,750	1,638,853	111,897
Purchased transport <sup>2</sup>	848,650	596,983	251,666
Maintenance	768,567	710,257	58,309
Depreciation	737,157	659,810	77,348
Other expenses <sup>3</sup>	1,412,837	1,298,056	114,779
<b>Number of employees <sup>4</sup>(No.)</b>	<b>78,033</b>	<b>73,540</b>	<b>4,492</b>
<b>Equipment operated (No.)</b>			
Straight trucks	16,218	15,338	880
Road tractors	37,542	35,216	2,326

1. Includes employee benefits.

2. Includes driver services, vehicle lease or rent, total purchased transportation and load broker services.

3. Includes terminal and insurance expenses.

4. Working owners, full and part time employees are included.

**Note(s):** Totals may not add due to rounding.

**Table 13**  
**Summary statistics by type of activity, local transport<sup>1</sup>, owner operators, 2005**

Local carriers	Total	General freight	Bulk liquids	Dry bulk materials	Forest products	Other commodities
Estimated number reporting (No.)	17,079	5,167	1,299	6,317	1,649	2,647
	thousands of dollars					
<b>Operating revenues</b>	<b>3,443,230</b>	<b>785,397</b>	<b>423,564</b>	<b>1,213,649</b>	<b>500,356</b>	<b>520,264</b>
<b>Operating expenses</b>	<b>3,190,794</b>	<b>739,171</b>	<b>388,244</b>	<b>1,140,982</b>	<b>468,616</b>	<b>453,781</b>
Salaries and wages	802,492	197,670	112,371	269,435	125,397	97,619
Benefits	22,295	3,429	2,884	11,243	2,803	1,936
Fuel	681,870	168,418	53,615	249,639	104,690	105,508
Owner operator expenses	0	0	0	0	0	0
Purchased transport	387,205	90,027	64,961	136,550	43,352	52,315
Maintenance	335,030	61,081	44,723	115,435	67,787	46,004
Depreciation	369,830	78,620	48,161	130,946	52,172	59,931
Insurance	133,696	27,639	13,394	47,384	20,215	25,064
Rent	117,108	28,138	9,675	55,100	11,662	12,533
Other expenses	341,263	84,146	38,459	125,249	40,537	52,872
<b>Full time employees <sup>2</sup>(No.)</b>	<b>29,898</b>	<b>7,988</b>	<b>2,777</b>	<b>12,314</b>	<b>2,938</b>	<b>3,881</b>
<b>Equipment operated (No.)</b>	<b>41,690</b>	<b>9,256</b>	<b>4,049</b>	<b>15,395</b>	<b>5,497</b>	<b>7,493</b>
Straight trucks (No.)	14,062	3,665	1,027	7,522	224	1,624
Distance travelled ('000 km)	710,300	197,777	56,587	399,096	8,976	47,864
Average distance ('000 km)	51	54	55	53	40	29
Road tractors (No.)	13,362	3,461	1,288	3,922	2,373	2,318
Distance travelled ('000 km)	1,130,111	306,202	123,264	290,969	218,439	191,237
Average distance ('000 km)	85	88	96	74	92	83
Semi-trailers (No.)	11,061	2,037	1,560	2,698	2,325	2,441
Other (No.)	3,205	93	175	1,254	575	1,108
<b>Total distance ('000 km)</b>	<b>1,840,411</b>	<b>503,979</b>	<b>179,851</b>	<b>690,065</b>	<b>227,415</b>	<b>239,101</b>
<b>Fuel consumed ('000 L)</b>	<b>945,947</b>	<b>220,268</b>	<b>86,375</b>	<b>387,926</b>	<b>124,786</b>	<b>126,592</b>

1. Excludes household goods movers.

2. Working owner included.

**Note(s):** Some totals may not add due to rounding.

**Table 14**  
**Summary statistics by type of activity, long-distance transport<sup>1</sup>, owner operators, 2005**

Long distance carriers	Total	General freight	Bulk liquids	Dry bulk materials	Forest products	Other commodities
Estimated number of owner operators (No.)	19,700	8,879	1,159	2,847	1,814	5,001
	thousands of dollars					
<b>Operating revenues</b>	<b>4,157,086</b>	<b>1,611,604</b>	<b>328,619</b>	<b>572,187</b>	<b>542,839</b>	<b>1,101,837</b>
<b>Operating expenses</b>	<b>3,775,721</b>	<b>1,482,110</b>	<b>298,252</b>	<b>508,870</b>	<b>502,908</b>	<b>983,581</b>
Salaries and wages	718,596	290,322	82,982	98,019	95,059	152,214
Benefits	12,324	5,373	1,695	1,601	1,174	2,481
Fuel	1,040,196	362,594	65,109	135,501	166,780	310,212
Owner operator expenses	0	0	0	0	0	0
Purchased transport	442,317	252,234	20,656	52,149	42,714	74,564
Maintenance	424,667	150,082	38,714	59,461	72,029	104,381
Depreciation	356,402	128,071	32,838	50,415	51,246	93,832
Insurance	150,886	58,416	13,254	19,086	22,447	37,683
Rent	111,844	50,554	12,370	18,258	8,548	22,114
Other expenses	518,485	184,465	30,632	74,379	42,910	186,099
<b>Full time employees <sup>2</sup>(No.)</b>	<b>29,211</b>	<b>13,029</b>	<b>2,164</b>	<b>3,879</b>	<b>3,006</b>	<b>7,133</b>
<b>Equipment operated (No.)</b>	<b>43,729</b>	<b>18,702</b>	<b>2,351</b>	<b>5,534</b>	<b>5,127</b>	<b>12,015</b>
Straight trucks (No.)	1,584	958	132	323	57	114
Distance travelled ('000 km)	98,938	64,920	8,091	14,634	4,633	6,660
Average distance ('000 km)	62	68	61	45	81	58
Road tractors (No.)	23,647	10,474	1,550	2,763	2,569	6,291
Distance travelled ('000 km)	3,718,815	1,700,217	229,667	398,091	374,344	1,016,496
Average distance ('000 km)	157	162	148	144	146	162
Semi-trailers (No.)	15,727	7,063	631	1417	2,258	4,358
Other (No.)	2,771	207	37	1031	244	1,252
<b>Total distance ('000 km)</b>	<b>3,817,755</b>	<b>1,765,137</b>	<b>237,759</b>	<b>412,726</b>	<b>378,977</b>	<b>1,023,156</b>
<b>Fuel consumed ('000 L)</b>	<b>1,840,525</b>	<b>884,222</b>	<b>110,204</b>	<b>219,349</b>	<b>161,327</b>	<b>465,423</b>

1. Excludes household goods movers.

2. Working owner included.

**Note(s):** Some totals may not add due to rounding.

**Table 15**  
**Summary statistics by type of activity, owner operators, 2005**

	Total	General freight	Household	Bulk liquids	Dry bulk materials	Forest products	Other commodities
Estimated number of owner operators (No.)	37,591	14,045	812	2,458	9,164	3,463	7,649
	thousands of dollars						
<b>Operating revenues</b>	<b>7,769,746</b>	<b>2,397,001</b>	<b>169,429</b>	<b>752,183</b>	<b>1,785,837</b>	<b>1,043,195</b>	<b>1,622,101</b>
<b>Operating expenses</b>	<b>7,122,068</b>	<b>2,221,280</b>	<b>155,556</b>	<b>686,496</b>	<b>1,649,851</b>	<b>971,523</b>	<b>1,437,362</b>
Salaries and wages	1,568,730	487,993	47,640	195,353	367,454	220,457	249,833
Benefits	35,379	8,802	759	4,579	12,845	3,977	4,417
Fuel	1,750,752	531,012	28,683	118,725	385,141	271,471	415,720
Owner operator expenses	0	0	0	0	0	0	0
Purchased transport	848,650	342,261	19,128	85,617	188,699	86,066	126,879
Maintenance	768,568	211,164	8,868	83,437	174,897	139,816	150,386
Depreciation	737,157	206,691	10,924	81,000	181,361	103,418	153,763
Insurance	291,961	86,055	7,379	26,649	66,470	42,661	62,747
Rent	236,837	78,692	7,885	22,045	73,358	20,210	34,647
Other expenses	884,038	268,611	24,290	69,091	199,628	83,447	238,971
<b>Full time employees <sup>1</sup> (No.)</b>	<b>60,764</b>	<b>21,017</b>	<b>1,656</b>	<b>4,941</b>	<b>16,193</b>	<b>5,943</b>	<b>11,014</b>
<b>Equipment operated (No.)</b>	<b>86,949</b>	<b>27,959</b>	<b>1,530</b>	<b>6,400</b>	<b>20,929</b>	<b>10,624</b>	<b>19,507</b>
Straight trucks (No.)	16,218	4,623	574	1,159	7,844	280	1,738
Distance travelled ('000 km)	832,715	262,698	23,476	64,678	413,731	13,609	54,523
Average distance ('000 km)	51	57	41	56	53	49	31
Road tractors (No.)	37,541	13,935	532	2,838	6,685	4,942	8,609
Distance travelled ('000 km)	4,903,906	2,006,418	54,980	352,931	689,060	592,784	1,207,733
Average distance ('000 km)	131	144	103	124	103	120	140
Semi-trailers (No.)	27,140	9,100	351	2191	4,115	4,583	6,800
Other (No.)	6,048	300	73	212	2,284	819	2,360
<b>Total distance ('000 km)</b>	<b>5,736,622</b>	<b>2,269,116</b>	<b>78,456</b>	<b>417,610</b>	<b>1,102,791</b>	<b>606,392</b>	<b>1,262,257</b>
<b>Fuel consumed ('000 L)</b>	<b>2,820,187</b>	<b>1,104,489</b>	<b>33,716</b>	<b>196,579</b>	<b>607,275</b>	<b>286,113</b>	<b>592,015</b>

1. Working owner included.

**Note(s):** Some totals may not add due to rounding.

**Table 16**  
**Summary statistics by type of movement, owner operators, 2005**

	Intraprovincial carriers	Extraprovincial carriers						
		Total	Intraprovincial	Interprovincial	International			
					Sub total	Into Canada	Out of Canada	
Estimated number of carriers (No.)	20,544	17,048	...	...	...	...	...	
			thousands of dollars					
<b>Operating revenues</b>	<b>3,952,839</b>	<b>3,817,017</b>	<b>1,233,580</b>	<b>833,103</b>	<b>1,750,334</b>	<b>808,915</b>	<b>941,419</b>	
<b>Operating expenses</b>	<b>3,603,982</b>	<b>3,518,199</b>	<b>1,144,992</b>	<b>774,792</b>	<b>1,598,415</b>	<b>752,439</b>	<b>845,976</b>	
Transportation expenses	2,631,268	2,510,959	839,150	567,150	1,104,659	524,300	580,359	
Maintenance and garage expenses	402,529	366,038	120,908	81,971	163,159	78,463	84,696	
Administrative and general office expenses	570,186	641,200	184,934	125,670	330,596	149,675	180,921	
<b>Full time employees (No.)</b>	<b>32,845</b>	<b>27,920</b>	...	...	...	...	...	
<b>Salaries and wages (\$'000)</b>	<b>860,227</b>	<b>708,502</b>	...	...	...	...	...	
			number					
<b>Equipment operated</b>	<b>45,372</b>	<b>41,577</b>	...	...	...	...	...	
Straight trucks	12,645	3,573	...	...	...	...	...	
Road tractors	16,159	21,383	...	...	...	...	...	
Semi-trailers	12,981	14,160	...	...	...	...	...	
Other	3,587	2,461	...	...	...	...	...	

**Note(s):** Total may not add due to rounding.



**Table 17**  
**Summary statistics by province or territory of domicile, owner operators, 2005**

	Canada	Newfoundland and Labrador	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario
Estimated number of owner operators (No.)	37,591	336	162	772	1,020	8,071	13,218
	thousands of dollars						
<b>Operating revenues</b>	<b>7,769,747</b>	<b>76,103</b>	<b>32,388</b>	<b>144,442</b>	<b>220,509</b>	<b>1,926,177</b>	<b>2,289,964</b>
<b>Operating expenses</b>	<b>7,122,068</b>	<b>74,200</b>	<b>31,522</b>	<b>136,705</b>	<b>200,047</b>	<b>1,792,919</b>	<b>2,127,699</b>
Salaries and wages	1,568,729	18,374	5,999	27,934	39,125	404,954	414,162
Benefits	35,379	282	33	314	591	7,278	9,268
Fuel	1,750,750	22,015	10,634	44,568	70,421	344,423	581,138
Owner operator expenses	0	0	0	0	0	0	0
Purchased transport	848,650	8,587	2,722	17,747	6,913	250,882	271,455
Maintenance	768,567	5,677	3,334	10,299	26,474	252,556	182,019
Depreciation	737,157	7,800	2,187	16,307	21,964	179,063	227,804
Insurance	291,962	3,449	1,328	4,856	9,044	69,670	67,531
Rent	236,837	1,473	369	1,625	3,793	76,780	54,073
Other expenses	884,038	6,543	4,917	13,055	21,722	207,312	320,249
<b>Full time employees (No.)</b>	<b>60,765</b>	<b>622</b>	<b>267</b>	<b>1,070</b>	<b>1,665</b>	<b>13,810</b>	<b>19,685</b>
	Manitoba	Saskat- chewan	Alberta	British Columbia	Yukon	Northwest Territories	Nunavut
Estimated number of owner operators (No.)	1,536	1,495	6,144	4,792	31	14	0
	thousands of dollars						
<b>Operating revenues</b>	<b>306,817</b>	<b>365,073</b>	<b>1,447,115</b>	<b>953,021</b>	<b>6,451</b>	<b>1,685</b>	<b>0</b>
<b>Operating expenses</b>	<b>274,130</b>	<b>331,801</b>	<b>1,284,336</b>	<b>861,462</b>	<b>6,062</b>	<b>1,186</b>	<b>0</b>
Salaries and wages	51,188	76,206	301,755	227,465	x	x	0
Benefits	382	2,034	8,544	6,621	x	x	0
Fuel	100,259	104,644	284,567	186,138	x	x	0
Owner operator expenses	0	0	0	0	x	x	0
Purchased transport	28,394	27,416	153,804	80,560	x	x	0
Maintenance	20,615	36,622	138,197	91,345	x	x	0
Depreciation	24,789	32,791	135,163	88,635	x	x	0
Insurance	7,843	16,122	70,133	41,679	x	x	0
Rent	7,700	8,265	58,655	23,878	x	x	0
Other expenses	32,959	27,701	133,520	115,140	x	x	0
<b>Full time employees (No.)</b>	<b>2,540</b>	<b>2,481</b>	<b>10,320</b>	<b>8,235</b>	<b>X</b>	<b>X</b>	<b>0</b>

**Note(s):** Some totals may not add due to rounding.

**Table 18**  
**Number of employees by type and by province or territory of domicile, owner operators, 2005**

	Canada	Newfoundland and Labrador	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario
	number						
Estimated number of owner operators	37,591	336	162	772	1,020	8,071	13,218
<b>Employees</b>							
Drivers							
Full time	52,680	x	x	1,002	1,338	11,971	17,226
Part time	9,313	x	x	110	446	2,072	2,209
Other Employees							
Full time	8,085	x	x	67	327	1,839	2,459
Part time	7,955	x	x	181	432	1,403	3,028
<b>Total</b>							
<b>Full time</b>	<b>60,765</b>	<b>x</b>	<b>x</b>	<b>1,070</b>	<b>1,665</b>	<b>13,810</b>	<b>19,685</b>
<b>Part time</b>	<b>17,268</b>	<b>x</b>	<b>x</b>	<b>290</b>	<b>878</b>	<b>3,475</b>	<b>5,238</b>
	Manitoba	Saskatchewan	Alberta	British Columbia	Yukon	Northwest Territories	Nunavut
	number						
Estimated number of owner operators	1,536	1,495	6,144	4,792	31	14	0
<b>Employees</b>							
Drivers							
Full time	2,231	2,063	9,005	7,008	x	x	0
Part time	486	557	2,097	1,117	x	x	0
Other Employees							
Full time	309	418	1,316	1,227	x	x	0
Part time	514	317	1,200	751	x	x	0
<b>Total</b>							
<b>Full time</b>	<b>2,540</b>	<b>2,481</b>	<b>10,320</b>	<b>8,235</b>	<b>x</b>	<b>x</b>	<b>0</b>
<b>Part time</b>	<b>1,000</b>	<b>875</b>	<b>3,296</b>	<b>1,868</b>	<b>x</b>	<b>x</b>	<b>0</b>

**Note(s):** Some totals may not add due to rounding.

**Table 19**  
**Equipment operated by province or territory of domicile<sup>1</sup>, owner operators, 2005**

	Straight trucks	Road tractors	Semi-trailers	Other equipment	Total
	number				
Newfoundland and Labrador	178	426	306	35	946
Prince Edward Island	x	x	x	x	514
Nova Scotia	x	x	x	x	1,506
New Brunswick	184	1,349	1,047	78	2,658
Quebec	3,873	8,586	7,158	1,362	20,978
Ontario	5,975	12,172	6,874	1,770	26,792
Manitoba	386	2,427	1,105	48	3,967
Saskatchewan	269	1,953	1,879	196	4,298
Alberta	2,599	6,139	5,391	563	14,693
British Columbia	2,416	3,439	2,691	1,938	10,486
Yukon	x	x	x	x	87
Northwest Territories	x	x	x	x	25
Nunavut	0	0	0	0	0
<b>Canada</b>	<b>16,218</b>	<b>37,542</b>	<b>27,141</b>	<b>6,048</b>	<b>86,949</b>

1. Owned and leased by a company.

**Note(s):** Some totals may not add due to rounding.

Table 20

Estimated annual distance travelled by type of vehicle and by province or territory of domicile, owner operators, 2005

	Total distance	Straight trucks	Road tractors
	thousands kilometres		
Newfoundland and Labrador	52,376	6,577	45,799
Prince Edward Island	31,347	x	x
Nova Scotia	123,132	x	x
New Brunswick	212,174	8,472	203,702
Quebec	1,325,486	179,232	1,146,255
Ontario	2,047,034	356,111	1,690,923
Manitoba	289,285	21,955	267,331
Saskatchewan	221,390	7,570	213,820
Alberta	855,964	90,052	765,912
British Columbia	569,824	148,242	421,582
Yukon	7,144	x	x
Northwest Territories	1,466	x	x
Nunavut	0	0	0
<b>Canada</b>	<b>5,736,622</b>	<b>832,715</b>	<b>4,903,907</b>

**Note(s):** Some totals may not add due to rounding.

## Methodology and data quality

### Introduction

This section describes the methodology of the Annual Motor Carriers of Freight Survey of Small For-hire Carriers and Owner Operators. Included are descriptions of the target and survey populations, the sample design, and the data processing and estimation methods. The quality of the data presented in this publication is discussed and quality indicators for some key statistics are given.

This information will provide the user with a better understanding of the strengths and limitations of the data, and how they can be effectively used and analyzed. The information may be of particular importance when making comparisons with data from other surveys or sources of information, and in drawing conclusions regarding changes over time, differences between geographic areas and differences among sub-groups of the target population.

Several terms used in this chapter are defined below:

**Target Population:** all units (e.g. carriers) for which the information is required.

**Survey Population:** all units (e.g. carriers) for which the survey can realistically provide information. The survey population may differ from the target population due to the operational difficulty of identifying all the units that belong to the target population.

**Survey Frame:** a list of all units in the survey population that carries classification information (e.g. industrial, geographical and size) of the units. This list is used for sample design and selection.

**Stratification:** a non-overlapping partition of the survey population into relatively homogeneous groups with respect to certain characteristics such as geographical and industrial classification, size, etc. These groups are called strata and are used for sample allocation and selection.

**Sampling weight:** a raising factor attached to each sampled unit to obtain estimates for the population from a sample. The basic concept of the sampling weight can be explained by using the representation rate. For example, if 2 units are selected out of 10 population units at random, then each selected unit represents 5 units in the population including itself, and is given the sampling weight of 5. A survey with a complex sample design requires a more complicated way of calculating the sampling weight. However, the sampling weight is still equal to the number of units in the population that the unit represents.

## Data Sources and Methodology

### A. Survey Objectives

The objective of this survey is to obtain information on small for-hire carriers and owner operators in terms of their structure and performance on an annual basis.

### B. Populations

#### Target Population

The target population includes all Canadian-domiciled for-hire motor carriers (companies) with annual operating revenues greater than or equal to \$30 thousand and less than \$1 million, as well as all Canadian-domiciled owner operators with annual operating revenues of \$30 thousand and more. Courier and messenger services are not covered by this survey, nor are private carriers.

#### Survey Population

The 2005 survey population consists of all companies on Statistics Canada's Business Register, the Central Frame Data Base (CFDB), classified as trucking companies with annual gross business income greater than or equal to \$30 thousand and less than \$1 million, or with annual gross business income of \$1 million and more if these companies are known as owner operators. In addition, the survey population includes some companies from an administrative file of 2005 tax filers, classified as trucking companies with annual operating revenues greater than or equal to \$30 thousand and less than \$1 million that are not yet found on the Business Register.

### C. Sample Design

The number of trucking companies on the survey frame is large and for that reason a sample of them is selected to represent the population. The survey uses a two-phase sample design, where a large first-phase sample is selected and the second-phase sample is drawn as a sub-sample from these companies. The design of the sampling procedures used in each phase is described below.

#### First-Phase

The first-phase sample is drawn independently for incorporated and unincorporated companies. The list of unincorporated companies on the Business Register is classified using province/territory of domicile, North American Industrial Classification System (NAICS) code, and size (measured by annual gross business income). Companies with the same classification form a stratum within which a first-phase sample is selected. The complete list of incorporated companies on the survey frame is included in the first-phase sample.

#### Second-Phase

The second-phase sample is a sub-sample of the first-phase sample. The companies included in the first-phase sample are again classified using province/territory of domicile, NAICS code, and size. Companies with the same classification form a stratum within which a second-phase sample is selected.

The overall size of the second phase sample and its allocation among strata are determined to satisfy precision requirements for provincial estimates under given cost constraints. The coefficient of variation is used as the measure of precision. The sample size and the estimated population size by province or territory of domicile are given in **Table 21**.

**Table 21****Estimated population size and sample size by province or territory of domicile, annual motor carriers of freight survey: small for-hire carriers and owner operators, 2005**

	Estimated carriers in survey population	Carriers selected		In-scope carriers selected
		Phase 1	Phase 2	
	number			
Newfoundland and Labrador	397	292		172
Prince Edward Island	179	106		56
Nova Scotia	906	476		185
New Brunswick	1,155	758		244
Quebec	9,855	6,688		524
Ontario	16,232	6,586		659
Manitoba	1,686	733		237
Saskatchewan	1,829	1,031		269
Alberta	7,132	4,694		668
British Columbia	6,038	2,719		416
Yukon	41	29		22
Northwest Territories	16	19		10
Nunavut	0	0		1
<b>Canada</b>	<b>45,466</b>	<b>24,131</b>		<b>3,462</b>

#### D. Data Collection and Processing

During the collection period, financial data is obtained for all units in the first-phase sample from an administrative file of tax filers. The companies included in the second-phase sample are contacted via telephone interview in order to collect operational data.

The survey data are checked for errors and inconsistencies. Problems or missing data are replaced with consistent values (are imputed) using Statistics Canada's Generalized Edit and Imputation System. The system imputes data using imputation rules that select representative data from another carrier. The data is then verified by subject matter specialists.

#### E. Estimation

Since only a sample of carriers was contacted for the AMCF survey, the individual values are weighted to represent the whole industry within the scope of the survey. The value of each carrier is multiplied by the weight for that carrier, and then the weighted data from all sampled carriers belonging to a given estimation domain (e.g. Ontario) are summed to obtain the estimate.

#### F. Reference Period

The reference period for collection purposes is the firm's own 12-month accounting period whose year-end occurred on any date from April 1, 2005 to March 31, 2006, inclusive.

#### Data Quality

Any survey suffers from errors. While considerable effort is made to ensure a high standard throughout all survey operations, the resulting estimates are inevitably subject to a certain degree of error. The total survey error is defined as the difference between the survey estimate and the true population value for which the survey estimate aims. The total survey error consists of two types of errors; sampling and non-sampling errors. Sampling error occurs when

a sample survey is carried out. Non-sampling errors arise due to various reasons other than sampling. These two types of errors are further explained below.

### **A. Sampling Error**

The Annual Motor Carriers of Freight Survey of Small For-hire Carriers and Owner Operators is subject to sampling error. When a sample is selected from a population, estimates based on the sample data will not in general be exactly the same as what would be obtained from a census of that population.

The difference between the estimates from a sample survey and a census conducted under the same conditions is referred to as the sampling error. Factors such as the sample size, the sample design, the variability of the population characteristic under study and the estimation method affect the sampling error. In general, a larger sample size produces a smaller sampling error. If the population is very heterogeneous like the trucking industry, a large sample size is needed to obtain a reliable estimate.

### **B. Non-sampling Errors**

The sampling error is only one component of the total survey error. Errors arising from all phases of a survey are called non-sampling errors. For example, non-sampling error can arise when a respondent provides incorrect information or does not answer certain questions or when a unit in the target population is omitted or covered more than once or when a unit that is out of scope for the survey is included by mistake or when errors occur in data processing, such as coding and capture errors.

The effects of some of the non-sampling errors will cancel out over a large number of observations, but systematically occurring errors (i.e. those that do not tend to cancel) will contribute to a bias in the estimates. For example, if carriers consistently tend to under-report their revenues, then the resulting estimate of the total revenues will be below the true population total.

As the sample size becomes closer to the population size, the sampling error component of the total survey error is expected to decrease. However, this is not necessarily true for the non-sampling error component.

In general, non-sampling errors are difficult to evaluate and special studies must be conducted to estimate them. However, certain measures such as imputation rates are easily obtained and can be used as indicators for portions of the non-sampling errors. Different types of non-sampling error together with their associated measures are discussed below.

#### **I. Coverage Errors**

Coverage errors arise when the survey frame does not adequately cover the target population. As a result, certain units belonging to the target population are either excluded (under coverage), or counted more than once (over coverage). In addition, out of scope units may be present in the survey frame (over coverage). Errors in the North American Industrial Classification Standard (NAICS) code on the survey frame may also result in either over or under coverage of the trucking industry.

#### **II. Response Errors**

Response errors occur when a respondent provides incorrect information due to misinterpretation of the survey questions or lack of correct information, gives wrong information by mistake, or is reluctant to disclose the correct information. Large response errors are likely to be caught during editing; however, others may simply go through undetected.

### III. Non-response Errors

Non-response errors can occur when a respondent does not respond at all (total non-response) or responds only to some questions (partial non-response). These errors can have a serious effect if non-respondents are systematically different from respondents in survey characteristics and/or the non-response rate is high.

### IV. Processing Errors

Apart from coverage, response and non-response errors as described above, errors that occur during the processing of the data constitute another component of the non-sampling error. Processing errors can arise in data capture, coding, transcription, imputation, outlier detection and treatment, and other types of data handling.

A coding error occurs when a field is coded erroneously because of misinterpretation of coding procedures or poor judgment (e.g. errors in NAICS coding). A data capture error occurs when data are misinterpreted or keyed incorrectly. For this survey, errors in financial data can occur when the data are being transcribed from the tax returns.

Once data are coded and captured, they are subject to editing and imputation of missing or erroneous values. The quality of the data depends on the amount of imputation and the difference between the imputed and the true, but unknown, values. Using invalid assumptions when developing the imputation system could result in bias in the imputed data.

The non-sampling error as a whole is only one part of the total survey error but its contribution may be important. To minimize the effect of this type of error, a quality assurance program is carried out for this survey. For instance, various quality assurance procedures are exercised at the data capture step. The data editing procedures identify some inconsistencies in the data structure and the imputation procedures correct the identified inconsistencies.

### C. Some Measures of Data Quality

This section presents some indicators of the data quality of the Annual Motor Carriers of Freight Survey of Small For-hire Carriers and Owner Operators as shown in Table 22. To assist the user in evaluating the potential effect of non-response and imputation, relative imputation rates for key characteristics (number of employees, fuel consumed, and operating revenues) are presented. The relative imputation rate is defined as the proportion of the corresponding published estimate that is accounted for by imputed data. For example, assume that the total published estimate is \$25 million, composed of \$20 million from non-imputed data and \$5 million from imputed data. Then the relative imputation rate is 0.2 (\$5 million divided by \$25 million) or 20%. The lower the relative imputation rate, the more reliable the published estimate.

**Table 22**  
**Quality measures by province or territory of domicile, annual motor carriers of freight survey: small for-hire carriers and owner operators, 2005**

	For-hire carriers			Owner-operators		
	Response rate	Relative imputation rate	Coefficient of variation	Response rate	Relative imputation rate	Coefficient of variation
	percent					
<b>Newfoundland and Labrador</b>	45.2	...	...	72.3	...	...
Total employment	...	50.9	11.6	...	22.0	6.2
Fuel consumed <sup>1</sup>	...	66.6	12.7	...	54.8	8.4
Total revenues	...	0.0	12.0	...	0.0	4.6
<b>Prince Edward Island</b>	100.0	...	...	67.3	...	...
Total employment	...	0.0	18.9	...	17.7	17.4
Fuel consumed <sup>1</sup>	...	37.7	27.1	...	56.9	11.3
Total revenues	...	0.0	20.8	...	0.0	8.7
<b>Nova Scotia</b>	56.1	...	...	85.9	...	...
Total employment	...	35.1	14.1	...	12.0	5.0
Fuel consumed <sup>1</sup>	...	74.7	13.4	...	56.0	10.5
Total revenues	...	0.1	11.1	...	0.0	6.0
<b>New Brunswick</b>	80.9	...	...	73.1	...	...
Total employment	...	7.3	47.7	...	21.5	17.2
Fuel consumed <sup>1</sup>	...	21.8	90.8	...	53.4	14.9
Total revenues	...	0.0	26.1	...	0.0	11.2
<b>Québec</b>	80.0	...	...	76.6	...	...
Total employment	...	11.2	13.8	...	22.7	5.1
Fuel consumed <sup>1</sup>	...	42.6	11.0	...	49.1	5.3
Total revenues	...	0.0	8.1	...	0.0	3.8
<b>Ontario</b>	77.0	...	...	64.4	...	...
Total employment	...	42.3	21.0	...	43.5	12.3
Fuel consumed <sup>1</sup>	...	63.6	27.0	...	61.3	13.1
Total revenues	...	0.0	16.7	...	0.5	10.2
<b>Manitoba</b>	85.1	...	...	70.6	...	...
Total employment	...	11.2	11.9	...	22.2	9.3
Fuel consumed <sup>1</sup>	...	45.9	16.2	...	52.9	8.5
Total revenues	...	0.0	11.1	...	1.0	5.3
<b>Saskatchewan</b>	80.0	...	...	71.6	...	...
Total employment	...	39.1	19.2	...	22.8	9.1
Fuel consumed <sup>1</sup>	...	67.4	19.1	...	52.4	12.1
Total revenues	...	0.0	12.9	...	0.0	8.4
<b>Alberta</b>	71.1	...	...	71.7	...	...
Total employment	...	44.5	16.7	...	16.4	11.1
Fuel consumed <sup>1</sup>	...	64.5	14.0	...	46.7	9.8
Total revenues	...	0.0	11.5	...	0.1	5.8
<b>British Columbia</b>	65.0	...	...	81.0	...	...
Total employment	...	40.5	14.5	...	8.8	12.4
Fuel consumed <sup>1</sup>	...	63.6	22.9	...	71.9	26.3
Total revenues	...	0.0	19.1	...	1.6	9.3
<b>Yukon</b>	50.0	...	...	43.8	...	...
Total employment	...	53.4	12.0	...	29.7	27.1
Fuel consumed <sup>1</sup>	...	89.9	20.0	...	35.2	13.1
Total revenues	...	0.0	6.1	...	0.0	12.0
<b>Northwest Territories</b>	50.0	...	...	100.0	...	...
Total employment	...	28.1	15.9	...	0.0	0.0
Fuel consumed <sup>1</sup>	...	57.1	32.0	...	60.5	26.8
Total revenues	...	0.0	6.6	...	0.0	4.2
<b>Nunavut</b>	...	...	...	...	...	...
Total employment	...	...	...	...	...	...
Fuel consumed <sup>1</sup>	...	...	...	...	...	...
Total revenues	...	...	...	...	...	...
<b>Canada</b>	73.3	...	...	72.6	...	...
Total employment	...	32.0	8.4	...	26.0	4.6
Fuel consumed <sup>1</sup>	...	57.5	10.3	...	55.8	5.5
Total revenues	...	0.0	6.9	...	0.4	3.3

1. All the for-hire carriers in the AMCF sample (whether they had an actual annual operating revenue less or over than \$1 million) were used to calculate the response and imputation rates presented in this table. See Section on Comparability of Data for more details.

A total response rate is also provided. This rate is defined as the number of carriers that responded to the survey divided by the total number of in-scope units in the sample.



As a measure of the sampling error, estimated coefficients of variation (CV) for some variables are presented in **Table 22**. CVs for other estimates may be obtained from the Transportation Division upon request. Note that the provided CV estimates do not consider the fact that some of the data were imputed and thus may underestimate the true CVs. The CV and the relative imputation rate should be considered simultaneously to make an assessment of the reliability of an estimate.

The quality of the estimates is classified as follows:

- \* Excellent : CV is 0,01% and 4,99%
- \* Very good : CV is 5,00% and 9,99%
- \* Good : CV is 10,00% and 14,99%
- \* Acceptable : CV is 15,00% and 24,99%
- \* Caution : CV is 25,00% and 34,99%
- \* Unreliable CV is larger than 35,00%

### Comparability of Data

For the 1999 reference year, changes were made to the derivation of certain financial variables from the administrative tax files. The variables for which historical comparison may be affected are transportation revenues, fuel expenses, Owner-operator expenses and miscellaneous expenses.

Effective for the 1998 reference year, the survey underwent a major redesign. The redesign involved major changes to the frame creation process, the sample design and the estimation strategy. The frame for 1998 was created from Statistics Canada's Business Register. The sample design at the second-phase has been optimized, and the estimation strategy now uses a calibration approach to make use of information that became available after the sample had been drawn (e.g. an updated frame is used in calculating the estimation weights to make use of updates to the Business Register since the sample was drawn). The overall effect of these changes is an improved reliability in the survey estimates. In particular, this improved reliability comes from i) an improved coverage of the target population (which results in an increase in the estimated number of in-scope companies), and ii) an improved precision in the survey estimates (i.e. lower coefficients of variation).

In order to improve the combined coverage of the trucking industry by the AMCF survey and its complement, the Quarterly Motor Carriers of Freight (QMCF) survey, a group of large companies will be included in the AMCF, effective for 1998. Since the QMCF uses the annual gross business income from the Business Register, which is not identical to the true annual operating revenues, to define the survey population, some companies in the QMCF target population (those with annual gross business income less than \$1 million, and actual annual operating revenues over \$1 million) are not included in the QMCF survey population. Although these companies do not fall into the target population for the AMCF, it was decided to include them in the AMCF survey population to improve the overall industry coverage of the two surveys. The effect of this is the addition of a small number of large companies to the AMCF survey population. Although the number of such companies is small, their large size leads to a noticeable increase in the survey estimates. In order to facilitate historical comparisons, separate domain estimates will be produced for i) companies with actual operating revenue less than \$1 million and ii) companies with actual operating revenue greater than or equal to \$1 million.

From 1995 to 1997, the survey covered for-hire carriers and owner operators with annual operating revenues greater than or equal to \$30 thousand and less than \$1 million. Starting with 1998, owner operators with annual operating revenues greater than or equal to \$1 million will also be covered.

From 1990 to 1995, the survey covered for-hire carriers and owner operators with annual operating revenues greater than or equal to \$25 thousand and less than \$1 million.

The survey data prior to the 1990 survey covered for-hire carriers with annual operating revenues of \$100 thousand or more. Owner operators were not included in the 1989 and preceding surveys.

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### Symbols

The following standard symbols are used in Statistics Canada publications:

.	not available for any reference period
..	not available for a specific reference period
...	not applicable
0	true zero or a value rounded to zero
0 <sup>s</sup>	value rounded to 0 (zero) where there is a meaningful distinction between true zero and the value that was rounded
P	preliminary
r	revised
X	suppressed to meet the confidentiality requirements of the <i>Statistics Act</i>
E	use with caution
F	too unreliable to be published

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