



Service bulletin

Quarterly Telecommunications Statistics 2nd quarter, 2004

Science, Innovation and Electronic Information Division

Vol. 28, No. 2

November 2004

All prices exclude sales tax

Catalogue No. 56-002-XIE, is available on Internet for CDN \$23.00 per issue or CDN \$43.00 for subscription.

A Print-on-Demand service is also available for CDN \$42.00 per issue or CDN \$86.00 for subscription.

Frequency: Quarterly / ISSN 1488-8025

To order Statistics Canada publications please call our National toll-free line: 1 800 267-6677 or Internet: infostats@statcan.ca

Highlights

- ▶ In second quarter 2004, the telecommunications industry contributed \$12.4 billion (1997 constant dollars) to Canadian gross domestic product (GDP), accounting for 2.4% of total economy GDP. (STC, CANSIM II Table 379-0018).
- ▶ Canada's telecommunications services industry had its most profitable quarter of the last five years between April and June this year. Operating profits for the second quarter of 2004 amounted to \$1.8 billion, a 26.1% gain from the same three months of 2003. That represents a profit margin of 21.8 cents for every dollar of revenue, compared with 18.1 cents in the previous year.
- ▶ The improvement in operating profits was driven largely by on-going efforts to contain operating expenses. The industry's operating expenses reached \$6.6 billion in the second quarter, unchanged from the second quarter last year.
- ▶ Both the wireline and wireless segments of the industry improved their financial performance in the second quarter. However, the wireless segment outperformed the wireline segment by a wide margin.
- ▶ By the end of June this year, wireless communications had 13.8 million subscribers, up 12.0% from the same period last year. The wireless segment revenues jumped 18.7% to \$2.3 billion, while operating profits surged 87.0% to \$663.4 million.
- ▶ In contrast, the client base for traditional wireline services has been steadily eroding. The number of network access lines fell 1.4% in the second quarter of 2004, the 10th consecutive year-over-year quarterly decline.
- ▶ Capital expenditures in the wireless sector were up 26.5% to \$332.3 million in the second quarter of 2004, and those of the wireline sector, up 30.7% to \$1.1 billion.

Published by authority of the Minister responsible for Statistics Canada.

© Minister of Industry 2004. All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise without prior written permission from Licence Services, Marketing Division, Statistics Canada, Ottawa, Ontario, Canada K1A 0T6.



Statistics
Canada

Statistique
Canada

Canada

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 ^s	value rounded to 0 (zero) where there is a meaningful distinction between true zero and the value that was rounded
P	preliminary
r	revised figures
x	suppressed to meet the confidentiality requirements of the Statistics Act
E	use with caution
F	too unreliable to be published

Abbreviations

n.e.c.	not elsewhere classified
FTE	Full-time equivalents
VGE	Voice-grade equivalents

North American Industry Classification System - NAICS (catalogue 12-501-XPE)

517	Telecommunications
5171	Wired Telecommunications
5172	Wireless Telecommunications
5173	Telecommunication Resellers
5174	Satellite Telecommunications (including Satellite Resellers)
5179	Other Telecommunications Services

Analytical overview

National and industry indicators

The telecommunications industry's **operating revenues** were \$8.5 billion in the second quarter of 2004 – an increase of 4.7% over the second quarter of 2003. Facilities-based wireline telecommunications services accounted for 68.7% of total industry operating revenues, while wireless, resellers, satellite, and other services accounted for 31.3% of the second quarter total. The share of wireline carriers vis-à-vis wireless service providers and resellers continues to be dominant, but has gradually declined from its share of 80.0% in the second quarter of 1999 (Figure 1).

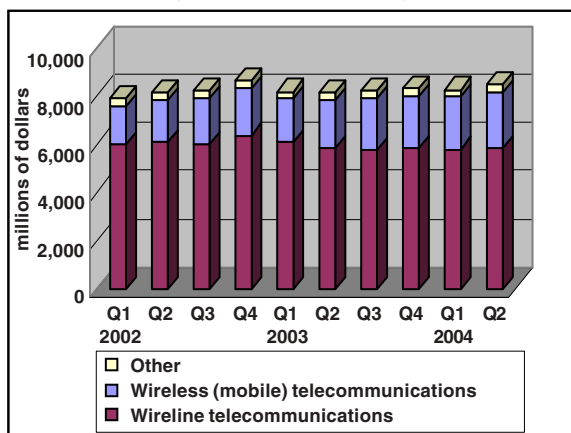
Operating revenues in the wireline industry totalled \$5.8 billion in the second quarter, down less than 0.1% from the previous year. **Operating revenues in the wireless industry** have been far more buoyant than in the wireline industry. At \$2.3 billion this quarter, operating revenues are up 18.7% from what was reported one year ago

Operating profit was \$1.8 billion in the second quarter, or 21.8% of operating revenues. Returns varied widely, however, depending on the telecommunications industry. The operating profit for wireline carriers was 19.3 cents on each revenue dollar, above the 17.5% average for the 2000 -2002 period. Wireless carriers reached a profit of nearly 28.5 cents on each revenue dollar, a performance that is in sharp contrast to the previous three years when the combined operating profits for the 2000-2003 period were \$2.59 billion or 9.6% of wireless operating revenues. The reseller, satellite and other industries (NAICS 5173, 4 and 9, respectively) had an estimated operating profit amounting to 18.6 cents on each dollar earned this quarter.

Capital expenditures for the telecommunications industry reached \$1.4 billion, 29.7% higher than what was reported in the second quarter of last year. The wireline and wireless industries had capital outlays of \$1.1 billion and \$332 million, respectively, representing 18.4% and 14.3% of second quarter operating revenues (Figure 2). This was the second year-over-year increase in capital expenditures since the second quarter of 2001.

Figure 1.

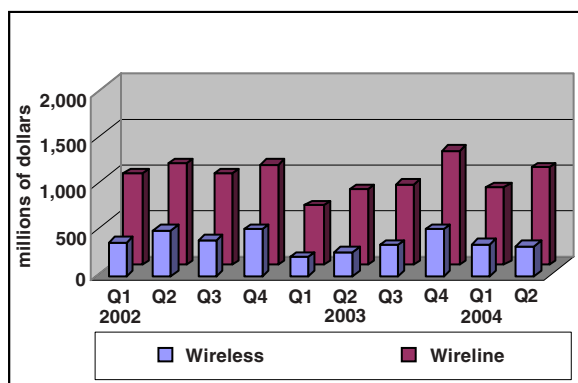
The share of wireline carriers vis-à-vis wireless service providers and resellers has been declining slowly over the last few years. (Revenues \$8.47 billion)



Source: Quarterly telecommunications statistics.

Figure 2.

Investments by the industry were up 29.7% in the second quarter of 2004 from the previous year. The increases were mainly in the wireline sector. (Capital expenditures \$1.40 billion)

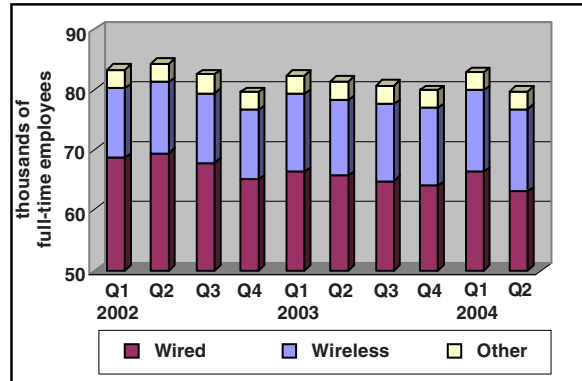


Source: Quarterly telecommunications statistics.

Figure 3.

Full-time employment in the telecommunications industries has decreased by 2.0% since second quarter, 2003.

There were 79,778 **full-time employees** this quarter, a 2.0% decrease from the second quarter of 2003. The loss of 1,589 full-time employees was largely due to a labour conflict in the industry. (Figure 3). The impact of the conflict was most evident in the wireline sector where the number of full-time positions fell by 2,545. **Average annual labour costs** (wages, salaries and benefits) per employee (full-time equivalent) were \$80,173 for the wireline industry and \$69,530 for the wireless industry.



Source: Quarterly telecommunications statistics.

Public-switched telephone network (PSTN) **wireline access** slid under 19.0 million lines at the end of the second quarter, a decrease of 1.4% from last year's level. This was the tenth consecutive quarter of year-over-year decline in wireline access. Since the fourth quarter of 2001 PSTN wireline access has decreased 3.9%. Residential lines accounted for 65.8% of the total and business lines represented 34.2% of PSTN lines (Text Table 1).

Each **ISDN (Integrated Service Digital Network) line** is capable of providing multiple access paths to the PSTN, based on their enhanced bandwidth. With ISDN lines converted to their voice-grade bandwidth equivalents (ISDN BRA = 2 lines, ISDN PRA = 23 lines), total fixed access this quarter was just under 19,7 million lines, a 1.4% decrease from what was reported one year ago.

Text table 1. PSTN Network infrastructure - Wired access

PSTN access	Second quarter, 2004		
	Residential	Business	Total
Wired access lines (NAICS 5171)			
Individual lines	12,246,544	2,769,230	15,015,774
Party lines	54,368	1,013	55,381
ISDN BRA	52	56,874	56,926
ISDN PRA	...	29,144	29,144
Public telephones	...	153,631	153,631
Centrex	...	2,501,717	2,501,717
Official lines	...	418,207	418,207
Other	-	318,042	318,042
Undercoverage estimate	202,423	240,376	442,799
Total - Wired access lines	12,503,387 (65.8%)	6,488,234 (34.2%)	18,991,621 (100.0%)
Total voice-grade equivalents	12,503,439 (63.5%)	7,186,276 (36.5%)	19,689,715 (100.0%)

Source: Quarterly telecommunications statistics, 2nd quarter, 2004.

Second quarter mobile telephony subscribers were up 12.0% from last year. At quarter end, there were just under 13.8 million subscribers, or 43.2 subscribers per 100 inhabitants. Since the first quarter of 1999, the number of mobile telephony subscribers has increased by 143.5%.

Teledensity measures the penetration of telecommunications services in a given population. For the wireline and wireless industries, there were 61.9 and 43.2 access paths (VGE) per 100 inhabitants, respectively. Total teledensity per 100 inhabitants was 105 in the second quarter, an increase of 2.8 from last year's second quarter figure (Text table 2).

Text table 2. PSTN Network infrastructure - Total access

Teledensity	
Total PSTN access	32,745,453
Total PSTN access (VGE)	33,443,547
Wired access (VGE) per 100 inhabitants	61.9
Wireless access (VGE) per 100 inhabitants	43.2
Total PSTN (VGE) per 100 inhabitants	105.1

Source: Quarterly telecommunications statistics, 2nd quarter, 2004.

Paging subscriptions have been decreasing over the last few years, perhaps due to the strong growth in cellular telecommunications, considered to be a substitute for paging. There were just under 1.2 million pagers in service in the second quarter, down from 1.4 million subscribers in the second quarter of 2003 (-17.1%).

Long distance **traffic** is nearly completely undertaken via wireline access, which was 13.4 billion minutes this quarter down 0.6% from the second quarter last year. About 15.5% of total wireline long distance minutes are originating from points outside Canada (Figure 5). Mobile telephony is still primarily used for local communication. However long distance wireless usage has increased by 8.9% to an average of 86 long distance minutes per subscriber. Total billed minutes rose substantially since the second quarter of 2003 (21.3%) to just under 12.1 billion.

Readers should note that wherever possible, survey undercoverage estimates have been included in the industry tables. Please see the *Concepts and methodology* section for further detail.

ELECTRONIC PUBLICATIONS AVAILABLE AT
www.statcan.ca



**Telecommunications industry
(NAICS 517)**

Summary tables

Table 1. Summary of operating indicators, NAICS 517, quarterly, 2004

	First quarter		Second quarter		Third quarter		Fourth quarter		Year to date	
		04/03 %		04/03 %		04/03 %		04/03 %		04/03 %
Financial indicators (\$000)										
Operating revenues	8,249,880	1.0	8,469,508	4.7					16,719,388	2.8
Operating expenses	6,567,468	(2.2)	6,624,268	(0.0)					13,191,736	(1.1)
Operating profit	1,682,412	16.0	1,845,241	26.1					3,527,653	21.0
% of operating revenues	20.4	14.8	21.8	20.4					21.1	17.7
Capital expenditures ¹	1,198,117	40.6	1,403,060	29.7					2,601,177	34.5
Employment (persons)										
Full-time	82,938	0.6	79,778	(2.0)					...	...
Part-time	<u>11,322</u>		<u>11,633</u>						...	...
Total	94,259		91,411						...	...
% of national industrial employment ²	0.712		0.663							
Total (full-time equivalents - FTE)	86,987		83,606						...	...
Labour costs (\$000)										
Average labour costs (\$) per FTE employee (annualized)	1,646,149		1,675,123						3,321,272	
	75,696		77,876						...	...
PSTN access paths (fixed and mobile)										
Total	32,667,575	4.0	32,745,453	3.8					...	...
Total (voice-grade equivalents - VGE)	33,368,158	3.9	33,443,547	3.7					...	...
Teledensity (VGE per 100 inhabitants)	105.0	2.8	105.1	2.8					...	...

Due to rounding, figures may not sum exactly to totals.

1. Comprises 5171 (Wireline) and 5172 (Wireless) only.
2. Survey of Employment, Payrolls and Hours (SEPH). The target population is composed of all employers in Canada, except those in agriculture, fishing and trapping, private households services, religious organizations and military personnel of defence services. For further information see Statistics Canada catalogue no. 72-002-XIB.

Table 2A. Summary of operating indicators, (NAICS 5171, 5172, 5173, 4, 9), first quarter, 2004

NAICS industries	5171	5172	5173, 4, 9	517
thousands of dollars				
Operating revenues¹				
Telecommunications operating revenues	F	2,001,222	..	..
Other operating revenues ²	F	113,903	..	..
Undercoverage estimate	E	<u>34,840</u>	<u>316,244</u>	<u>E</u>
Total		5,783,670	2,149,965	316,244
% of NAICS 517		70.1	26.1	3.8
Operating expenses				
Telecommunications operating expenses		4,016,017	1,390,712	..
Other operating expenses		476,840	208,226	..
Undercoverage estimate		<u>184,984</u>	<u>28,742</u>	<u>261,948</u>
Total		4,677,841	1,627,680	261,948
% of NAICS 517		71.2	24.8	4.0
Operating profit				
		1,105,830	522,286	54,297
% of operating revenues		19.1	24.3	17.2
Non-operating revenues and expenses (survey units only)				
Non-operating revenues		55,692	X	..
Non-operating expenses				
Interest expenses		217,549	78,479	..
Other		<u>48,583</u>	<u>X</u>	..
Total		266,132	X	..
Net income before taxes				
		895,390	226,452	..
EBITDA ³		2,096,788	884,332	..
Capital expenditures				
		846,845	351,272	..
% of operating revenues		14.6	16.3	..
Employment (persons)				
Full-time		66,342	13,506	3,090
Part-time		<u>8,159</u>	<u>2,923</u>	<u>240</u>
Total		74,500	16,429	3,330
% of national industrial employment		0.563	0.124	0.025
Total (full-time equivalents - FTE)		69,483	14,367	3,137
Labour costs				
Full-time		1,283,886	235,779	49,900
Part-time		<u>60,787</u>	<u>15,037</u>	<u>760</u>
Total		1,344,673	250,816	50,660
Average labour costs (\$) per FTE employee (annualized)		77,411	69,829	..

1. Some data available in previous issues of this publication can no longer be published due to reporting and classification problems. Some of these statistics may be made available if the classification and reporting problems can be resolved.
2. Other includes: terminal equipment rentals; sale of telecommunications goods; directory services; retail internet access; installations; customer repairs and maintenance, etc.
3. EBITDA - Earnings before interest, taxes, depreciation and amortization.

Table 2B. Summary of operating indicators, (NAICS 5171, 5172, 5173, 4, 9), second quarter, 2004

NAICS industries	5171	5172	5173, 4, 9	517
thousands of dollars				
Operating revenues				
Telecommunications operating revenues	F	2,156,196	..	..
Other operating revenues ¹	F	135,527	..	..
Undercoverage estimate	F	<u>37,749</u>	<u>324,705</u>	<u>F</u>
Total	5,815,331	2,329,472	324,705	8,469,508
% of NAICS 517	68.7	27.5	3.8	100.0
Operating expenses				
Telecommunications operating expenses	4,024,826	1,393,261	..	..
Other operating expenses	483,541	243,363	..	..
Undercoverage estimate	<u>185,622</u>	<u>29,419</u>	<u>264,235</u>	<u>479,277</u>
Total	4,693,989	1,666,043	264,235	6,624,268
% of NAICS 517	70.9	25.2	4.0	100.0
Operating profit				
	1,121,342	663,429	60,470	1,845,241
% of operating revenues	19.3	28.5	18.6	21.8
Non-operating revenues and expenses (survey units only)				
Non-operating revenues	64,829	X	..	..
Non-operating expenses				
Interest expenses	229,826	77,126	..	..
Other	<u>138,892</u>	<u>X</u>	..	..
Total	368,718	X	..	..
Net income before taxes				
	817,453	372,476	..	..
EBITDA ²	2,120,560	1,025,658	..	..
Capital expenditures				
	1,070,759	332,301	..	..
% of operating revenues	18.4	14.3	..	..
Employment (persons)				
Full-time	63,135	13,670	2,973	79,778
Part-time	<u>8,420</u>	<u>2,966</u>	<u>247</u>	<u>11,633</u>
Total	71,555	16,636	3,220	91,411
% of national industrial employment	0.519	0.121	0.023	0.663
Total (full-time equivalents - FTE)	66,070	14,519	3,017	83,606
Labour costs				
Full-time	1,311,279	236,609	50,823	1,598,712
Part-time	<u>60,953</u>	<u>14,699</u>	<u>758</u>	<u>76,411</u>
Total	1,372,233	251,309	51,581	1,675,123
Average labour costs (\$) per FTE employee (annualized)	80,173	69,530	..	77,876

1. Other includes: terminal equipment rentals; sale of telecommunications goods; directory services; retail internet access; installations; customer repairs and maintenance, etc.

2. EBITDA - Earnings before interest, taxes, depreciation and amortization.

Table 2C. Summary of operating indicators, (NAICS 5171, 5172, 5173, 4, 9), year to date, 2004

NAICS industries	5171	5172	5173, 4, 9	517
thousands of dollars				
Operating revenues				
Telecommunications operating revenues	F	4,157,418	..	..
Other operating revenues ¹	F	249,430	..	..
Undercoverage estimate	E	<u>72,590</u>	<u>640,949</u>	<u>E</u>
Total		11,599,002	4,479,438	640,949
% of NAICS 517		69.4	26.8	3.8
Operating expenses				
Telecommunications operating expenses		8,040,843	2,783,973	..
Other operating expenses		960,381	451,589	..
Undercoverage estimate		<u>370,606</u>	<u>58,161</u>	<u>526,183</u>
Total		9,371,830	3,293,723	526,183
% of NAICS 517		71.0	25.0	4.0
Operating profit				
		2,227,172	1,185,715	114,766
% of operating revenues		19.2	26.5	17.9
Non-operating revenues and expenses (survey units only)				
Non-operating revenues		120,521	X	..
Non-operating expenses				
Interest expenses		447,375	155,605	..
Other		<u>187,475</u>	<u>X</u>	..
Total		634,850	X	..
Net income before taxes				
		1,712,843	598,928	..
EBITDA ²		4,217,348	1,909,990	..
Capital expenditures				
		1,917,604	683,573	..
% of operating revenues		16.5	15.3	..
Employment (persons)				
Full-time		63,135	13,670	2,973
Part-time		<u>8,420</u>	<u>2,966</u>	<u>247</u>
Total		71,555	16,636	3,220
% of national industrial employment		0.519	0.121	0.023
Total (full-time equivalents - FTE)		66,070	14,519	3,017
Labour costs				
Full-time		2,595,166	472,388	100,724
Part-time		<u>121,740</u>	<u>29,737</u>	<u>1,518</u>
Total		2,716,905	502,125	102,242
Average labour costs (\$) per FTE employee (annualized)		80,173	69,530	..

1. Other includes: terminal equipment rentals; sale of telecommunications goods; directory services; retail internet access; installations; customer repairs and maintenance, etc.

2. EBITDA - Earnings before interest, taxes, depreciation and amortization.

Table 3. Summary of analytical indicators, NAICS 5171, 5172, quarterly, 2004¹

NAICS industries	5171				5172			
	I	II	III	IV	I	II	III	IV
Financial								
Operating revenue per capita (\$)	182.15	182.73			67.71	73.20		
Operating profit (% of operating revenues)	19.1	19.3			24.3	28.5		
Average revenue per long distance minute (cents) ²	F	F			12.90	13.01		
Average revenue per local minute (cents)	...	...			14.51	13.88		
Capital expenditures per capita (\$)	26.67	33.64			11.06	10.44		
Capital expenditures (% of operating revenues)	14.6	18.4			16.3	14.3		
Employment/Labour								
Industry employment as a % of national industrial employment ³	0.563	0.519			0.124	0.121		
Revenue per FTE employee (\$)	83,239	88,018			149,642	160,440		
PSTN access paths per FTE employee ⁴	279	292			945	947		
Average labour costs (\$) per FTE employee (annualized)	77,411	80,173			69,829	69,530		
Labour costs as a % of operating revenues	23.2	23.6			11.7	10.8		
Teledensity (VGE)								
PSTN access paths per 100 inhabitants	62.3	61.9			42.7	43.2		
Traffic^{2, 5}								
Local minutes per subscriber	...	...			710	797		
Local minutes per capita	...	...			302	343		
Long distance minutes per access path (VGE) ⁴	719	712			78	86		
Long distance minutes per capita	429	421			33	37		

1. Some data available in previous issues of this publication can no longer be published due to reporting and classification problems. Some of these statistics may be made available if the classification and reporting problems can be resolved.
2. Long distance minutes include domestic and international calls originating in Canada and toll-free calls for wireline carriers, and billed minutes for wireless carriers.
3. Survey of Employment, Payrolls and Hours (SEPH). The target population is composed of all employers in Canada, except those in agriculture, fishing and trapping, trapping, private households services, religious organizations and military personnel of defence services. For further information see Statistics Canada catalogue no. 72-002-XIB.
4. Excludes official lines
5. Calculations do not include undercoverage estimates.

**Wired telecommunications carriers
(NAICS 5171)**

Tables and graphs

Table 4. Operating revenues, NAICS 5171, quarterly, 2004¹

Wired telecommunications (NAICS 5171)	First quarter		Second quarter		Third quarter		Fourth quarter		Year to date	
	\$000	04/03 %	\$000	04/03 %	\$000	04/03 %	\$000	04/03 %	\$000	04/03 %
Telecommunications operating revenues										
Carrier services										
Contribution	F		F						F	
Interconnection	F		F						F	
Circuit rentals	F		F						F	
Other	E		E						E	
Total	F	F	F	F					F	F
Voice services										
Local telephony	F	F	F	F					F	F
Long distance telephony	F	F	F	F					F	F
Calling features	F	F	F	F					F	F
Connection	E	F	E	F					E	F
Total	F	F	F	F					F	F
Data and high speed services										
Narrowband packet-switched	F		F						F	
High speed switched ²	E		E						E	
Total	F	F	F	F					F	F
Non-switched services (private lines)										
Narrowband	F		F						F	
High speed	E		E						E	
Total	F	F	F	F					F	F
Other telecommunications services	E		E						E	
Total	F	F	F	F					F	F
Other operating revenues										
Terminal equipment rentals	F		F						F	
Sale of telecommunications goods	F		F						F	
Directory services	F		F						F	
Retail Internet services	F		F						F	
Other services n.e.c.	E		E						E	
Total	F	F	F	F					F	F
Undercoverage estimate	E	...	E	...					E	...
Total operating revenues	5,783,670	(4.2)	5,815,331	(0.0)					11,599,002	(2.1)

1. Some data available in previous issues of this publication can no longer be published due to reporting and classification problems. Some of these statistics may be made available if the classification and reporting problems can be resolved.

2. Wideband and broadband circuit- and packet-switched services.

Table 5. Operating expenses, NAICS 5171, quarterly, 2004

Wired telecommunications (NAICS 5171)	First quarter		Second quarter		Third quarter		Fourth quarter		Year to date	
	\$000	04/03 %	\$000	04/03 %	\$000	04/03 %	\$000	04/03 %	\$000	04/03 %
Telecommunications operating expenses										
Carrier services										
Contribution	44,519		38,633						83,152	
Interconnection	555,034		586,690						1,141,724	
Circuit rentals	167,705		180,771						348,476	
Other	<u>34,995</u>		<u>33,981</u>						<u>68,976</u>	
Total	802,253	(33.3)	840,075	(2.7)					1,642,328	(20.5)
Labour expenses	1,251,672	5.6	1,288,726	10.3					2,540,398	7.9
Depreciation	990,958	4.2	999,218	(0.5)					1,990,176	1.8
Other	<u>971,134</u>		<u>896,807</u>						<u>1,867,941</u>	
Total	4,016,017	(11.9)	4,024,826	(1.6)					8,040,843	(7.0)
Other operating expenses	476,840	150.7	483,541	1.7					960,381	44.3
Undercoverage estimate	<u>184,984</u>	...	<u>185,622</u>	...					<u>370,606</u>	...
Total operating expenses	4,677,841	(5.4)	4,693,989	(1.2)					9,371,830	(3.3)

Table 6. Financial and performance indicators, NAICS 5171, quarterly, 2004¹

Wired telecommunications (NAICS 5171)	First quarter		Second quarter		Third quarter		Fourth quarter		Year to date	
	\$000	04/03 %	\$000	04/03 %	\$000	04/03 %	\$000	04/03 %	\$000	04/03 %
Operating revenues	5,783,670	(4.2)	5,815,331	(0.0)					11,599,002	(2.1)
Operating expenses	4,677,841	(5.4)	4,693,989	(1.2)					9,371,830	(3.3)
Operating profit	1,105,830	1.3	1,121,342	5.5					2,227,172	3.4
% of operating revenues	19.1	5.7	19.3	5.5					19.2	5.6
EBITDA ²	2,096,788	2.7	2,120,560	2.6					4,217,348	2.6
Revenue performance³ (\$)										
Operating revenue per capita	182.15	(5.0)	182.73	(0.9)					364.88	(3.0)
Voice services revenue per PSTN line ⁴	F	F	F	F					F	F
Local revenue per PSTN line ⁴	F	F	F	F					F	F
Long distance revenue per PSTN line ⁴	F	F	F	F					F	F
Average revenue per long distance minute (cents)	F	F	F	F					F	F

1. Some data available in previous issues of this publication can no longer be published due to reporting and classification problems. Some of these statistics may be made available if the classification and reporting problems can be resolved.

2. EBITDA - Earnings before interest, taxes, depreciation and amortization.

3. Calculations do not include undercoverage estimates, and where applicable are based on voice-grade equivalent (VGE) PSTN lines.

4. Excludes official telephone lines

Table 7. Employment and labour costs, NAICS 5171, quarterly, 2004

Wired telecommunications (NAICS 5171)	First quarter		Second quarter		Third quarter		Fourth quarter		Year to date	
		04/03 %		04/03 %		04/03 %		04/03 %		04/03 %
Employment (persons)										
Full-time	66,342	(0.2)	63,135	(3.9)					...	...
Part-time	<u>8,159</u>	(0.4)	<u>8,420</u>	(1.8)					...	...
Total	74,500	(0.2)	71,555	(3.6)					...	...
% of national industrial employment	0.563		0.519						...	...
Total (full-time equivalents - FTE)	69,483	0.6	66,070	(2.8)					...	...
Revenue (\$) per FTE employee	83,239		88,018						...	...
Labour costs¹										
Full-time	1,283,886	7.1	1,311,279	10.1					2,595,166	8.6
Part-time	<u>60,787</u>	28.3	<u>60,953</u>	46.0					<u>121,740</u>	36.6
Total	1,344,673	7.9	1,372,233	11.4					2,716,905	9.6
Average labour costs (\$) per FTE employee (annualized)	77,411	7.3	80,173	10.8					...	...

1. Includes capitalized labour expenditures.

Table 8. Capital expenditures, NAICS 5171, quarterly, 2004

Wired telecommunications (NAICS 5171)	First quarter		Second quarter		Third quarter		Fourth quarter		Year to date	
	\$000	04/03 %	\$000	04/03 %	\$000	04/03 %	\$000	04/03 %	\$000	04/03 %
Capital expenditures	846,845	30.8	1,070,759	30.7					1,917,604	30.7
% of operating revenues	14.6	36.5	18.4	30.7					16.5	33.6
per capita (\$)	26.67	29.7	33.64	29.5					60.39	29.6

Table 9. Network infrastructure, NAICS 5171, quarterly, 2004

Wired telecommunications (NAICS 5171)	First quarter		Second quarter		Third quarter		Fourth quarter	
		04/03 %		04/03 %		04/03 %		04/03 %
Network infrastructure (access)								
PSTN access lines								
Individual lines (includes PBX)	15,108,257	(1.1)	15,015,774	(1.2)				
Party lines	56,773	(9.6)	55,381	(9.5)				
ISDN BRA	58,271	(10.2)	56,926	(9.5)				
ISDN PRA	29,196	0.8	29,144	0.8				
Public telephones	154,983	(4.3)	153,631	(4.2)				
Centrex	2,501,916	(2.9)	2,501,717	(2.4)				
Official lines	422,148	1.3	418,207	0.4				
Other (includes mobile and WATS)	319,935	(5.8)	318,042	(4.4)				
Undercoverage estimate	442,799	...	442,799	...				
Total	19,094,278	(1.4)	18,991,621	(1.4)				
Residential (%)	66.0		65.8					
Business (%)	34.0		34.2					
Total PSTN voice-grade equivalents (VGE)	19,794,861	(1.4)	19,689,715	(1.4)				
Residential (%)	63.7		63.5					
Business (%)	36.3		36.5					
PSTN (VGE) per 100 inhabitants	62.3	(2.4)	61.9	(2.2)				
Residential access lines (VGE) per 100 households	103		102					
Business access lines (VGE) per 100 employed persons ¹	54.3		52.1					
PSTN access paths (VGE) per FTE employee ²	279		292					
Non-PSTN lines³								
Digital	293,131		292,373					
Analogue	25,553		25,228					
Total	318,684		317,601					

1. Employed persons from SEPH estimate of national industrial employment.

2. Excludes official telephone lines.

3. Calculations do not include undercoverage estimates.

Table 10. Long distance traffic, NAICS 5171, quarterly, 2004

Wired telecommunications (NAICS 5171)	First quarter		Second quarter		Third quarter		Fourth quarter		Year to date	
		04/03 %		04/03 %		04/03 %		04/03 %		04/03 %
Traffic statistics (thousands of minutes)¹										
Long distance traffic										
Outbound calls	9,176,739		8,966,716						18,143,455	
Toll-free calls	2,381,729		2,362,090						4,743,819	
Inbound calls to Canada	<u>2,047,907</u>		<u>2,076,710</u>						<u>4,124,617</u>	
Total	13,606,375	(2.2)	13,405,516	(0.6)					27,011,891	(1.4)
Traffic performance (minutes)¹										
Long distance traffic										
Outbound calls										
per access line (VGE) ²	485		476						961	
per capita	289		282						571	
Toll-free calls										
per access line (VGE) ²	126		125						251	
per capita	75		74						149	
Inbound calls to Canada										
per access line (VGE) ²	108		110						218	
per capita	64		65						129	
Total										
per access line (VGE) ²	719	(0.7)	712	0.8					1,431	0.1
per capita	429	(2.9)	421	(1.6)					850	(2.3)

1. Calculations do not include undercoverage estimates.
 2. Excludes official telephone lines.

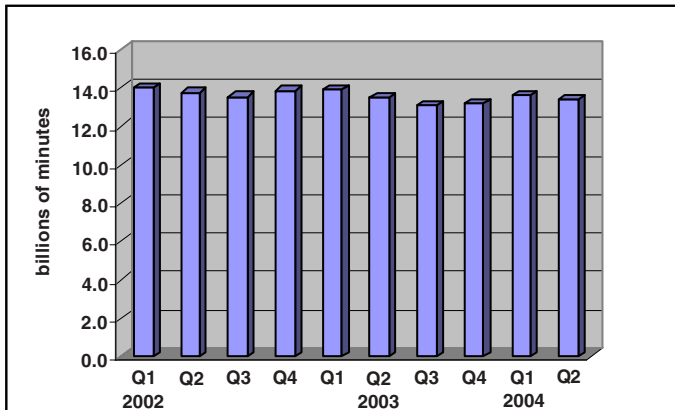


Figure 4.
Wireline traffic - Total long distance minutes
(13.4 billion)

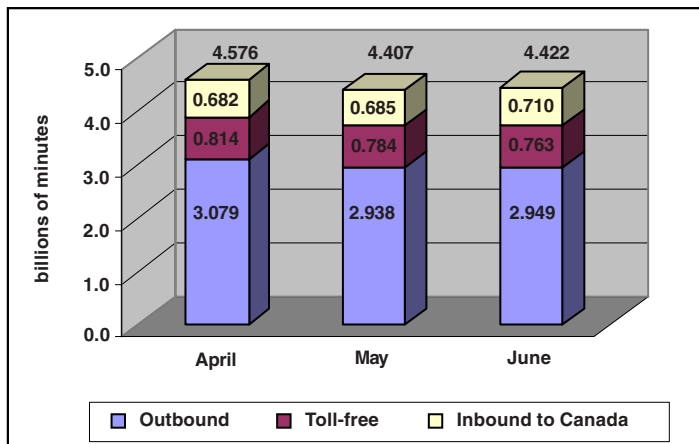


Figure 5.
Monthly wireline long distance minutes,
second quarter, 2004
Total outbound minutes 9.0 billion
Total toll-free minutes 2.4 billion
Total inbound to Canada minutes 2.1 billion

ELECTRONIC PUBLICATIONS AVAILABLE AT
www.statcan.ca



**Wireless telecommunications carriers
(NAICS 5172)**

Tables and graphs

Table 11. Operating revenues, NAICS 5172, quarterly, 2004

Wireless telecommunications (NAICS 5172)	First quarter		Second quarter		Third quarter		Fourth quarter		Year to date	
	\$000	04/03 %	\$000	04/03 %	\$000	04/03 %	\$000	04/03 %	\$000	04/03 %
Telecommunications operating revenues										
Carrier services	40,825		50,776						91,601	
Local telephony										
Fixed (recurrent services)	913,422		938,928						1,852,350	
Air time (measured services)	385,149		471,904						857,053	
Other	<u>92,609</u>		<u>104,274</u>						<u>196,883</u>	
Total	1,391,180	17.7	1,515,106	16.6					2,906,286	17.1
Long distance telephony										
Total	135,198	20.0	153,662	23.3					288,860	21.7
Messaging - Paging	29,453		28,744						58,197	
Other telecommunications services	<u>404,562</u>		<u>407,896</u>						<u>812,458</u>	
Total	2,001,222	16.3	2,156,196	17.0					4,157,418	16.7
Other operating revenues										
Undercoverage estimate	<u>34,840</u>	...	<u>37,749</u>	...					<u>72,590</u>	...
Total operating revenues	2,149,965	18.2	2,329,472	18.7					4,479,438	18.4

Table 12. Operating expenses, NAICS 5172, quarterly, 2004

Wireless telecommunications (NAICS 5172)	First quarter		Second quarter		Third quarter		Fourth quarter		Year to date	
	\$000	04/03 %	\$000	04/03 %	\$000	04/03 %	\$000	04/03 %	\$000	04/03 %
Telecommunications operating expenses										
Carrier services	78,833		77,763						156,596	
Labour expenses	243,790		245,263						489,053	
Depreciation	362,046		362,229						724,275	
Other telecommunications expenses	<u>706,043</u>		<u>708,006</u>						<u>1,414,049</u>	
Total	1,390,712	6.8	1,393,261	0.6					2,783,973	3.6
Other operating expenses	208,226	17.6	243,363	25.1					451,589	21.5
Undercoverage estimate	<u>28,742</u>	...	<u>29,419</u>	...					<u>58,161</u>	...
Total operating expenses	1,627,680	8.1	1,666,043	3.6					3,293,723	5.8

Table 13. Financial and performance indicators, NAICS 5172, quarterly, 2004

Wireless telecommunications (NAICS 5172)	First quarter		Second quarter		Third quarter		Fourth quarter		Year to date	
	\$000	04/03 %	\$000	04/03 %	\$000	04/03 %	\$000	04/03 %	\$000	04/03 %
Operating revenues	2,149,965	18.2	2,329,472	18.7					4,479,438	18.4
Operating expenses	1,627,680	8.1	1,666,043	3.6					3,293,723	5.8
Operating profit	522,286	66.3	663,429	87.0					1,185,715	77.3
% of operating revenues	24.3	40.8	28.5	57.5					26.5	49.7
EBITDA ¹	884,332	28.6	1,025,658	41.7					1,909,990	35.3
Revenue performance (\$) ²										
Operating revenue per capita	67.71	17.1	73.20	17.6					140.91	17.4
Local revenue per subscriber	103.01	4.4	110.71	4.1					213.72	4.2
Average revenue per local minute (cents)	14.51	(3.6)	13.88	(3.8)					14.18	(3.7)
Long distance revenue per subscriber	10.01	6.4	11.23	10.0					21.24	8.3
Average revenue per long distance minute (cents)	12.90	(5.5)	13.01	0.2					12.96	(2.6)
Paging revenue per subscriber	34.53	13.7	35.32	16.3					69.85	15.0

1. EBITDA - Earnings before interest, taxes, depreciation and amortization.

2. Calculations do not include undercoverage estimates.

Table 14. Employment and labour costs, NAICS 5172, quarterly, 2004

Wireless telecommunications (NAICS 5172)	First quarter		Second quarter		Third quarter		Fourth quarter		Year to date	
		04/03 %		04/03 %		04/03 %		04/03 %		04/03 %
Employment (persons)										
Full-time	13,506	4.8	13,670	8.0					...	...
Part-time	<u>2,923</u>	23.2	<u>2,966</u>	31.1					...	...
Total	16,429	7.7	16,636	11.5					...	...
% of national industrial employment	0.124		0.121						...	...
Total (full-time equivalents - FTE)	14,367	5.1	14,519	8.0					...	...
Revenue (\$) per FTE employee	149,642		160,440						...	...
Labour costs (\$000)¹										
Full-time	235,779	16.1	236,609	13.5					472,388	14.8
Part-time	<u>15,037</u>	21.7	<u>14,699</u>	14.1					<u>29,737</u>	17.8
Total	250,816	16.4	251,309	13.5					502,125	15.0
Average labour costs (\$) per FTE employee (annualized)	69,829	10.8	69,530	7.9					...	...

1. Includes capitalized labour expenditures.

Table 15. Capital expenditures, NAICS 5172, quarterly, 2004

Wireless telecommunications (NAICS 5172)	First quarter		Second quarter		Third quarter		Fourth quarter		Year to date	
	\$000	04/03 %	\$000	04/03 %	\$000	04/03 %	\$000	04/03 %	\$000	04/03 %
Capital expenditures	351,272	71.7	332,301	26.5					683,573	46.3
% of operating revenues	16.3	45.3	14.3	6.6					15.3	23.5
per subscriber (\$)	25.88	52.3	24.16	12.9					50.04	30.4
per capita (\$)	11.06	70.2	10.44	25.3					21.50	45.0

Table 16. Network infrastructure, NAICS 5172, quarterly, 2004

Wireless telecommunications (NAICS 5172)	First quarter		Second quarter		Third quarter		Fourth quarter	
		04/03 %		04/03 %		04/03 %		04/03 %
Network infrastructure (access)								
Mobile subscribers	13,573,297	12.7	13,753,832	12.0				
Mobile telephony penetration per 100 inhabitants	42.7	11.5	43.2	11.1				
PSTN access paths per FTE employee	945		947					
Paging subscribers	1,233,340	(15.2)	1,194,217	(15.9)				
Paging penetration per 100 inhabitants	3.9	(15.2)	3.8	(15.6)				

Table 17. Traffic statistics, NAICS 5172, quarterly, 2004

Wireless telecommunications (NAICS 5172)	First quarter		Second quarter		Third quarter		Fourth quarter		Year to date	
		04/03 %		04/03 %		04/03 %		04/03 %		04/03 %
Traffic statistics (thousands of minutes)¹										
Billed minutes										
Local	9,586,840		10,912,044						20,498,884	
Long distance	<u>1,048,018</u>		<u>1,180,675</u>						<u>2,228,693</u>	
Total	10,634,858	22.6	12,092,719	21.3					22,727,577	21.9
Traffic performance (minutes)¹										
Local minutes per subscriber	710	8.4	797	8.1					1,507	8.3
Long distance minutes per subscriber	78	13.0	86	8.9					164	10.8
Billed minutes per subscriber	787	8.7	884	8.3					1,671	8.5

1. Calculations do not include undercoverage estimates.

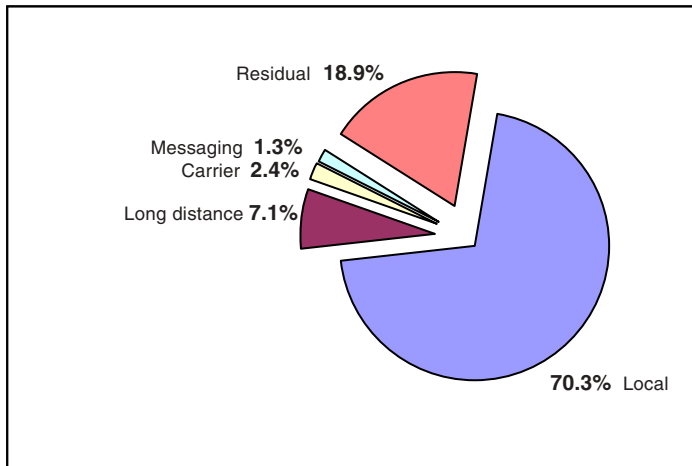


Figure 6.
Wireless telecommunications operating revenue shares
(Revenues \$2.16 billion)

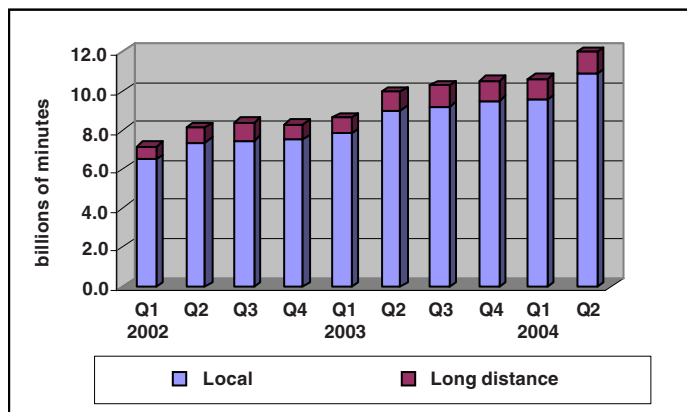


Figure 7.
Wireless traffic billed minutes
(12.1 billion)

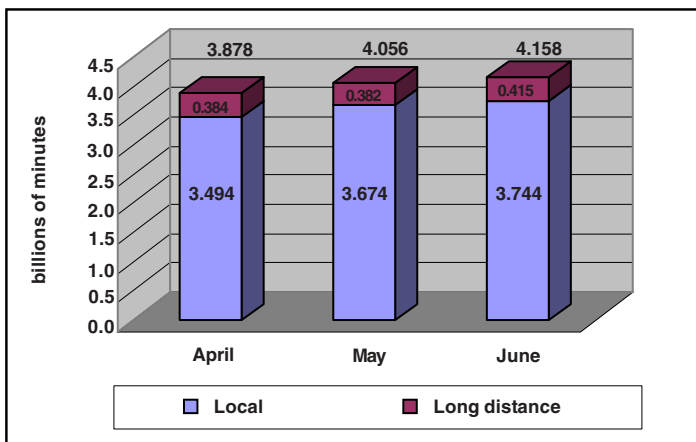


Figure 8.
Monthly wireless billed minutes,
second quarter, 2004
Wireless billed minutes remained over 12.1 billion
in the second quarter of 2004, an increase of 21.3%
from the second quarter last year.
The majority of these were local minutes (10.9 billion)

**Resellers, satellite, and other telecommunications
(NAICS 5173, 5174, 5179)**

Undercoverage estimates

Table 18. Undercoverage estimates, NAICS 5173, 4, 9, quarterly, 2004

Resellers, satellite, and other telecommunications (NAICS 5173, 5174, 5179)	First quarter	Second quarter	Third quarter	Fourth quarter	Year to date
Financial indicators (\$000)					
Operating revenues	316,244	324,705			640,949
Operating expenses	261,948	264,235			526,183
Operating profit margin	54,297	60,470			114,766
% of operating revenues	17.2	18.6			17.9
Employment (persons)					
Full-time	3,090	2,973			...
Part-time	<u>240</u>	<u>247</u>			...
Total	3,330	3,220			...
% of national industrial employment	0.025	0.023			...
Total (full-time equivalents - FTE)	3,137	3,017			...
Labour costs (\$000)					
Full-time	49,900	50,823			100,724
Part-time	<u>760</u>	<u>758</u>			<u>1,518</u>
Total	50,660	51,581			102,242

Concepts and methodology

Survey objectives

The quarterly survey of telecommunications service providers (NAICS 517) serves to measure the industry's financial performance, aspects of its network infrastructure, and industry operating characteristics relating to employment, capital expenditures and traffic activity. The survey improves on the monthly survey it replaces by: expanding survey coverage to include the major alternative wireline carriers and the wireless industry; providing undercoverage estimates for those units that make up the industry but are not included in the survey (resellers, satellite and small wireline and wireless service providers); using concepts consistent with the redesigned annual survey introduced in 1997; and, reducing reporting burden on respondents who had previously submitted twelve reports each year.

Survey coverage

The quarterly survey covers the largest establishments primarily engaged in the provision of telecommunications services and which operate telecommunications facilities (wired and wireless providers). There are 21 companies included in the survey representing every province and territory. Not surveyed are companies providing reselling, satellite and other services n.e.c. Activities for these companies are estimated based on annual surveys.

Industrial classification

Telecommunications service providers are classified to one of the five North American Industry Classification System (NAICS) telecommunications industries (Wired, Wireless, Resellers, Satellite and Other¹). Released in May, 2003, NAICS 2002 is the most up-to-date industry classification in use, and was jointly developed by

Canada, the United States and Mexico. Reporting units are classified according to the activity in which they are primarily engaged and the main technology they employ. This system has been updated from the 1997 NAICS. For further details about NAICS and for industry concordance between NAICS and the CSIC at all levels, consult the Statistics Canada publication 12-501-XPE.

Survey methodology

The quarterly survey collects data from the largest companies corresponding to NAICS industries 5171 (Wired) and 5172 (Wireless), reflecting approximately 98.0% of revenue activity for these industries and 93.9% of revenue activity for the telecommunications industry overall (NAICS 517) (see Table A). The annual survey, a census of telecommunications service providers, is used to produce undercoverage estimates for those units that are not surveyed in the quarterly, so that total industry activity can be estimated. NAICS telecommunications industries 5173, 5174 and 5179 are not surveyed because their respondents are generally smaller, and the few that are larger tend to dominate their industries, which would pose disclosure problems if they were to be included.

Variables which may be subject to wide variation from period to period, such as capital expenditures and non-operating revenues and expenses, were not estimated for non-surveyed units. In addition, these activities tend to be less significant the smaller the establishment (which is typical of the non-surveyed industries), such that the survey values for these variables are good proxies for total industry aggregates.

1. NAICS 5171

The wired (wireline) industry comprises establishments primarily engaged in operating and maintaining switching and transmission facilities to provide direct communications via land lines, microwave, or a combination of land lines, microwave and satellite link-ups.

NAICS 5172

The wireless telecommunications industry comprises establishments engaged in operating and maintaining switching and transmission facilities to provide direct communications via the airwaves, including cellular, personal communications services (PCS), enhanced specialized mobile radio (ESMR), and messaging (paging).

NAICS 5173

A telecommunications service provider is a reseller if it is primarily engaged in purchasing access and network capacity from owners and operators of telecommunications networks and reselling telecommunications services to their clients.

NAICS 5174

The satellite industry comprises establishments primarily engaged in operating, maintaining and providing access to fixed and mobile satellite telecommunications facilities for the transmission of voice, data, text, sound and full motion videos. Resellers of satellite communications are also included.

NAICS 5179

The 'Other telecommunications' industry includes companies providing telecommunications services not covered by the industries described above (e.g., telemetry, satellite tracking, radar stations operations).

Coverage rates for the 2004 Quarterly survey are calculated by determining how much of total industry activity is attributed to the current quarterly respondents, using the most recent annual data available (2002), taking into consideration buy-outs, mergers and consolidations since 2002, and applying these ratios to the current quarterly data. The table below indicates coverage rates for operating revenues with respect to each NAICS industry. Undercoverage rates for other variables are similar to the rates presented here.

Table A - Coverage rates for operating revenues

NAICS	Coverage %	Undercoverage %	Total %
5171	97.6	2.4	100.0
5172	98.4	1.6	100.0
5173,4,9	-	100.0	100.0
517	93.9	6.1	100.0

Undercoverage estimates for access lines are not adjusted between quarters because the observed growth in surveyed units (large incumbents and entrants) is not expected to be replicated by non-surveyed units (small, often rural, service providers). The undercoverage estimate simply reflects the number of access lines of the non-surveyed units for the most recent annual data available. Mobile subscriber undercoverage has not been adjusted between quarters, not because non-surveyed units are thought to be static, but because these units constitute such a small share of the industry that any change attributable to them would be negligible.

Quality and limitations of data

When Statistics Canada receives the completed quarterly questionnaires, they are checked for consistency with previous returns. All unusual occurrences are queried for confirmation and clarified with the respondents concerned. The data are almost always actual amounts, but where circumstances necessitate, best estimates are used from the respondents or derived by Statistics Canada based on the respondent's historical records and current industry trends.

The quarterly survey of telecommunications service providers is not a sample survey and therefore sampling errors do not occur. Non-sampling errors, however may occur. There are potentially four sources of non-sampling error that can be identified in any given survey: coverage error, response error, non-response error and processing error. Unlike sampling error, non-sampling error is not readily quantified. *Coverage error* results from inadequate representation of the intended population. This error may occur during selection of the survey population, or during data collection and processing. There is no evidence of significant coverage error in the 2004 Quarterly Survey of Telecommunications.

Response error may be due to many factors, including faulty design of the questionnaire, interviewers' or respondents' misinterpretation of questions, or respondents' faulty reporting. Frequent changes in company personnel may also lead to response error. The quarterly survey has several features that help respondents to complete the questionnaire, including logic and consistency checks, and a glossary of terms and concepts. Responses are compared from quarter to quarter and any significant deviations are queried by analysts to ensure their accuracy. However, even with these checks, the accuracy of data depends on the respondent's willingness to consult their records.

Non-response error occurs because not all potential respondents cooperate fully. This has not been a concern with the quarterly survey. *Processing errors* may also occur during coding, entry, editing and tabulation of the data. In this survey, procedures for quality control were used during the processing of data, as indicated above, to keep such errors to a minimum.

Revisions

Revisions are necessary as more complete data become available. The nature of the telecommunications industry is such that respondents often contact Statistics Canada to update their data or to report errors in data they had previously reported. Revisions are made each quarter to reflect these changes or corrections in the data. The most recent release of quarterly telecommunications data should always be consulted for the most accurate information.

Readers should note that some revisions have been made to reflect new accounting guidance and industry practice, as well as mergers and consolidations between companies. Communication between Statistics Canada and various companies resulted in improved allocation of wired operating expenses; and wireless operating revenues and expenses.

For more information, or to enquire about the concepts, methods and data quality, please contact Advisory Services Division at 1 800 263-1136; Facsimile 1 877 287-4369; infostats@statcan.ca.

Standards of service to the public

Statistics Canada is committed to serving its clients in a prompt, reliable and courteous manner and in the official language of their choice. To this end, the Agency has developed standards of service which its employees observe in serving its clients. To obtain a copy of these service standards, please contact Statistics Canada toll-free at 1 800 263 1136.

Note of appreciation

Canada owes the success of its statistical system to a long-standing partnership between Statistics Canada, the citizens of Canada, its businesses, governments and other institutions. Accurate and timely statistical information could not be produced without their continued cooperation and goodwill.

The development of Statistics Canada's Telecommunications Statistical Infrastructure Program benefited from the advice and financial support of the Spectrum, Information Technologies and Telecommunications Sector, Industry Canada.

ELECTRONIC PUBLICATIONS AVAILABLE AT
www.statcan.ca



Glossary of terms

Advanced services ratio. The ratio of operating revenues from software enhanced telecommunications services (e.g., calling features), services supporting internet and packet-switched communications, and other high speed applications (switched and non-switched services), and traditional telephony (local and long distance voice, connection and narrowband non-switched or private line services). (*Rapport des services de pointe*)

Alternative providers of long distance services. Non-incumbent (entrant) facilities-based and non-facilities-based (resellers) companies providing long distance telecommunications services. (*Autres fournisseurs de services intercirconscriptions*)

Average labour costs per FTE employee (annualized). Total industry labour costs (wages, salaries and benefits paid to full-time and part-time employees) divided by the number of full-time equivalent employees. This calculation is a moving average, such that previous quarter data is included in the current quarter calculation, and adjusted to arrive at an annual estimate. The first quarter estimate is multiplied by four, the second quarter estimate is calculated by summing labour costs for the first two quarters divided by the average number of FTE employees for both quarters, and multiplying that result by two, etc. (*Coûts moyens de la main-d'oeuvre par employés à plein temps ou l'équivalent (annualisés)*)

Average revenue per long distance minute. Long distance operating revenues divided by long distance outbound minutes (including toll-free). (*Revenu moyen par minute de service interurbain*)

Broadband access. High capacity two-way links between end-user and suppliers networks (central offices) such as hybrid-fibre-coaxial-cable systems, fibre-to-the-curb and fibre-to-the-home systems for residential users, with speed in one direction exceeding 1.544 Mbps. (*Accès à large bande*)

Calling Features. Specialized software and database applications linked to telecommunications networks such as call waiting, call forwarding, caller identification, three way calling, speed dialing, etc.; call management services: call display, call return, call screen, call blocking, automatic call-back, etc.; and, tele-messaging: call answer, extension call answer, voice mail, voice menus, etc. These features are commonly offered on a per-use, or on fixed monthly charge basis. Calling features are also referred to as optional or enhanced local services). (*Options de gestion*)

Calls/messages, Outbound. Calling/messaging units originating in Canada and terminating in Canada, the United States, and overseas (foreign countries other than the United States). (*Appels ou messages de départ en provenance du Canada*)

Calls/messages, Incoming/Inbound. Calls/messages from either the United States or overseas (foreign countries other than the United States) and terminating in Canada. (*Appels ou messages d'arrivée internationaux à destination du Canada*)

Capital expenditures per subscriber. Dollar amount of wireless capital expenditures for every wireless subscriber. (*Dépenses en immobilisations par abonnés*)

Carrier services. Services provided to other telecommunication service providers (common carriers or resellers). This includes contribution, interconnection and other services provided to telecommunications service providers such as co-location, access to support structures, data base access, the recovery of start-up costs, other unbundled elements associated with the provision of dial tone, etc. (*Services aux entreprises de télécommunications*)

Cellular telecommunications. A telecommunications system that uses radio frequencies in the 800 MHz (megahertz) frequency band to provide mobile access to the PSTN (public switched telephone network). Cellular telecommunication can use either analogue or digital transmission technology over a multi-cell architecture. (*Cellulaire de télécommunications*)

Circuit. A facility consisting of the equipment and apparatus required to form a path suitable for the transmission of voice, text, audio, video or data communication between telephones and other communication equipment in the telecommunications network. (*Circuit*)

Connection. The one-time activation of telecommunications subscribers by connecting or reconnecting them to the PSTN. This does not include premises wiring. (*Connexion*)

Contribution. Payments (per minute or per circuit) derived from domestic and international long-distance telecommunications revenues to cover the revenue shortfall in the provision of local/access services. (*Contribution*)

Conversation minutes. The actual elapsed period in minutes a respondent's switches, circuits, lines or groups of lines are in use, or in the case of rebillers, the actual conversation time their customers use for calls and messages. Billing increments other than conversation time were converted to conversation minutes and reported by respondents accordingly. (*Minutes de conversation*)

Data and high speed services. This includes all wideband and broadband services (greater than 64 kbps), as well as narrowband packet-switched services. Wholesale internet services are not reported separately, and are included here. (*Services de données et à haute vitesse*)

Dispatch services. Non-switched services provided by radio common carrier (RCC) license holders for the provision of radio communications services (e.g., dispatch services for taxis or field service personnel, mobile data for police departments, etc.). (*Service de dépêche*)

Earnings before interest, taxes, depreciation and amortization (EBITDA). For this survey, this is calculated by summing operating profit and depreciation. (*Bénéfices avant intérêts, impôts, dépréciation et amortissement (BAIDA)*)

Employee. Any person drawing pay for services rendered or for paid absences and for whom an employer must complete a Canada Customs and Revenue Agency T4 Supplementary Form. This includes full-time (work performed or paid absence of 30 or more hours in a typical work week) and part-time employees (work performed or paid absence of less than 30 hours a week), working owners, directors, partners and other officers of unincorporated businesses. It excludes owners or partners of unincorporated businesses, the self employed, unpaid family workers, persons outside Canada and casual workers for whom a T4 is not required. (*Employés*)

Enhanced specialized mobile radio (ESMR). A telecommunications system that uses radio frequencies primarily in the 800 MHz frequency band to provide mobile dispatch services and mobile access to the wireline PSTN. ESMR uses digital transmission technology over a multi-cell network architecture. Its activity is reported as part of mobile telephony. (*Services de radiocommunications mobiles spécialisés (SRMS)*)

Establishment. A telecommunications service provider which is an operating entity capable of reporting basic elements of financial and network statistics, such as revenues, (wireless) operated. (*Établissement*)

Facilities-based operator. A telecommunications service provider that owns or operates any transmission facility (wire, cable, radio, optical, or other electromagnetic system, or any similar technical system) for the transmission of

intelligence (signs, signals, writing, images, sounds or intelligence of any nature) between network termination points. (*Fournisseurs de télécommunications exploitant leurs propres installations*)

Fixed wireless. The use of radio frequencies for the provision of telecommunication services from a fixed place. This is used for access to the PSTN in remote areas or for alternative access to the PSTN in built-up areas. In these circumstances, fixed wireless is known as wireless local loop (WLL). Fixed wireless can use either digital or analogue transmission technology. (*Sans fil fixe*)

Fringe benefits. Employer contributions to pension plans, medical and other welfare plans, unemployment insurance, Canada and Quebec Pension Plans and workers compensation. Not included are non-taxable benefits provided by an employer such as premiums under a private health plan, recreational facilities, moving expenses and certain employee counselling services. Reported with **Labour costs.** (*Avantages sociaux*)

Full-time equivalent (FTE) employees. Full-time employees plus part-time employees converted to full-time equivalents. For this survey, this is calculated by dividing total part-time labour costs by the average full-time salary (full-time labour costs divided by full-time employees). (*Employés à plein temps ou l'équivalent (EPT)*)

Interconnection. Services and facilities beyond the point of interconnection (such as switching and aggregation) to terminate traffic on behalf of an originating telecommunications service provider. This includes transiting or transport where provided pursuant to an interconnection tariff or agreement. Interconnection occurs between local exchange carriers (LEC s) and interexchange service providers (IXC s), including alternative providers of long distance services (APLDS), LEC s and wireless service providers (WSP s), and between domestic and foreign service providers. (*Interconnexion*)

Labour costs. The total remuneration paid to employees before deductions (the equivalent to the taxable employment income reported in Box 14 of the employees Canada Customs and Revenue Agency T4 slips). This includes regular wages and salaries, overtime pay, paid leave, taxable allowances and benefits, gratuities, director's fees, vacation pay and special payments such as bonuses and commissions, retroactive and accumulated wage payments, termination/ severance payments, cost of living adjustments and working owner's draws, for expensed or capitalized labour. This also includes fringe benefits (see **Fringe benefits**). Readers should note that the amount reported as part of Operating expenses may differ from what is reported in the labour cost section, since the latter may include payments for labour that are capitalized. (*Coûts de la main-d'oeuvre*)

Local switched telecommunications. The switching and transmission of voice, data, image and video messages over the PSTN within local calling areas. (*Télécommunications commutées locales*)

Long-distance switched telecommunications. The switching and transmission of voice, data, image and video messages over the PSTN between local calling areas. (*Télécommunications commutées interurbaines*)

Messaging. An interactive telecommunications service that provides for information interchange among users by means of store-and-forward, electronic mail, or message-handling functions such as paging and narrowband PCS. Telephone answering services are not included. (*Messagerie*)

National industrial employment. Total national employment from Statistics Canada's Survey of Employment, Payrolls and Hours (SEPH). The target population is composed of all employers in Canada, except those in agriculture, fishing and trapping, private households services, religious organizations and military personnel of defence services. This figure does not include self-employment. For further information see Statistics Canada Catalogue No. 72-002-XPB. (*Emploi industriel national*)

Narrowband PCS. A telecommunication system that uses radio frequencies in the 900 MHz frequency band to provide one or two-way messaging services. This service uses digital transmission technology with radio frequency channels of 50 kHz (kilohertz) or less. (*Bande étroite (SCP)*)

Net income before taxes. Total revenues (operating revenues plus non-operating revenues) less total expenses (operating expenses plus non-operating expenses). (*Revenu net avant impôt*)

Network access service. Primary connection to a company owned network for the purpose of telecommunications, regardless of the physical characteristics of the link. This includes individual and party line circuits; trunks connecting company facilities with switching devices located on customers premises; licensed radio-telephones; primary connections within networks (i.e., drops); WATS; and primary special services circuits. (*Services d'accès au réseau*)

Non-switched telecommunications. Dedicated communication lines or paths between specified points for the exclusive use of the lessees or owners typically not involving the PSTN for routing or switching the communication, e.g., private voice and data networks linking multiple business locations, dedicated links for transferring high-resolution video, etc. (*Télécommunications sans commutation*)

Non-PSTN lines. Telecommunications lines not connected to the PSTN, e.g., non-switched transport services such as low-speed data links for automated teller machines; private voice and data networks linking multiple business locations; and dedicated links for transferring high-resolution video. Analogue lines (voice, sub-voice) are typically used for alarm monitoring, traffic control, point-of-sale terminals, etc. (*Télécommunications sans commutation*)

Operating profit. Total operating revenues less total operating expenses. (*Bénéfice d'exploitation*)

Operating revenue per capita. Industry operating revenue per person based on the quarterly population estimate. (*Revenus d'exploitation par personne*)

Packet switched telecommunications. Voice, data or video telecommunications that are divided into packets of fixed or variable length to be routed along non-reserved circuits to their destination. Each packet is addressed and numbered so it can be routed to its proper destination and reassembled in its proper sequence upon its arrival. These packets typically follow various routes depending on what is available at the time, which maximizes the network's operating efficiency. (*Commutation par paquets*)

Paging. A one-way telecommunications system that provides signaling or information transfer by such means as tone, tone-voice, tactile, or optical read-out. Analogue or digital transmission technology may be used. (*Radiomessagerie*)

Paging revenue per subscriber. Paging revenues per paging subscribers (does not include undercoverage estimate). (*Revenus de messagerie par abonné*)

Personal communications services (PCS). Mobile telecommunications using radio frequencies in the 1900 MHz frequency band connected access to the PSTN. PCS uses digital transmission technology over a multi-cell network architecture. (*Services de commutations personnelles (SCP)*)

Public switched telephone network (PSTN). The worldwide dial-up telephone network (switching, circuits, transmission and access services), or a portion of that network, used to establish voice and non-voice (text, audio, video or data) communications carried over a path initially established using normal telephone signaling and ordinary switched long-distance telephone circuits. (*Réseau téléphonique public commuté (RTPC)*)

PSTN, Centrex access lines. A business telephone service offered by a service provider that permits direct inward dialing to a customer's extensions, transfer of incoming calls from one extension to another, and

identification of extension telephones for billing of long-distance calls. Centrex is based on switching equipment usually located on the service providers premises. (*Lignes d'accès Centrex (RTPC)*)

PSTN, Individual access line. A subscriber line arranged to serve one main telephone. This includes PBX (private branch exchange) lines for businesses that have corresponding dedicated ports in the telephone exchange equipment. (*Ligne d'accès individuelle (RTPC)*)

PSTN, ISDN access line (Integrated services digital network). A high capacity digital line the equivalent of 2 (BRA) or 23 (PRA) voice grade lines. These are counted as single lines despite their greater capacity. See voice-grade equivalents for a measure that is frequently used to take into account the enhanced capacity of these lines. (*RTPC, Réseau numérique d'intégration de services (RNIS)*)

BRA (Basic rate access) access lines deliver two 64 kbps channels (B channels) and one 16 kbps channel (D channel) over a standard twisted-pair loop. The 64 kbps channels are capable of transmitting voice or data simultaneously while the D channel transmits call control messages and packet data at 9.6 kbps. (*Accès à débit de base ADB*)

PRA (Primary rate access) lines can transmit at 1.544 Mbps (T1 trunk facility) consisting of 23 64 kbps B channels and one 64 kbps D channel. The B channels carry voice and data at 64 kbps while the D channel carries out-of-band signaling for one or more primary rate links. (*Accès à débit primaire ADP*)

PSTN access paths per FTE employee. Access lines for the wireline industry and mobile subscribers for the wireless industry, per full-time equivalent employee in the respective industries. (*Voies d'accès RTPC par employé à plein temps ou l'équivalent*)

PSTN, Other access lines. Wireline access lines not specified by any of the defined categories (individual, ISDN, public, centrex) such as WATS, Mobile access lines (this is not the same as mobile telephony subscribers). (*Autres accès (RTPC)*)

PSTN, Party access line. A subscriber line arranged to serve two or more main telephones (e.g., residential party lines). (*Partagés (RTPC)*)

PSTN, Public telephones. Coin or card payphones including semi-public phones (payphones available to the public on a restricted basis owing to their location, e.g., those on private premises such as restaurants). (*Téléphones publics (RTPC)*)

Reseller. A telecommunications service provider primarily engaged in purchasing access and network capacity from owners and operators of telecommunications networks and reselling telecommunications services to their clients. Resellers may own some network facilities such as switching equipment or apparatus to manipulate and control intelligence but do not operate or maintain a full network, nor own transmission facilities such as wire, cable, radio or optical systems. (*Revendeur*)

Retail internet services. The value reported in these quarterly reports represents only a small part of retail internet services in Canada, as most telecom companies have subsidiary companies or separate operating divisions (ISP's - Internet Service Providers), which are not telecommunications industries according to the North American Industry Classification System (NAICS). (*Services Internet de détail*)

Revenue per FTE employee. Total operating revenues per full-time equivalent employee. (*Revenu par employé à plein temps ou l'équivalent*)

Satellite, fixed. Communications via satellite transmission in which the terrestrial terminal points are fixed. (*Satellite (Fixe)*)

Satellite, mobile. Communications via satellite transmission in which the terrestrial terminal point can be mobile. (*Satellite (Mobile)*)

Subscriber. A customer of a wireline or wireless telecommunications service provider having unique access to the PSTN. (*Abonné*)

Switching equipment. Digital and analogue equipment and related software used to switch traffic over the PSTN. PBX s used as public switches are included whereas PC's used as switches are excluded. (*Équipement de commutation*)

Telecommunications. Any transmission, emission or reception of signs, signals writing images, sounds or intelligence of any nature, by wire, radio, visual or other electro-magnetic system. (*Télécommunications*)

Telecommunications, wireline (wired). Establishments primarily engaged in operating and maintaining switching and transmission facilities to provide direct communications via land lines, microwave, or a combination of land lines, microwave and satellite link-ups. (*Télécommunications par fil*)

Telecommunications, wireless. Establishments engaged in operating and maintaining switching and transmission facilities to provide direct communications via the airwaves. (*Télécommunications sans fil*)

Telecommunications, other. Establishments primarily engaged in providing specialized telecommunications services such as satellite tracking, communications telemetry and radar station operation. The includes establishments primarily engaged in providing satellite terminal stations and associated facilities connected with one or more terrestrial systems and capable of transmitting telecommunications to, and receiving telecommunications from, satellite systems. (*Autres services de télécommunications*)

Teledensity. A measure of the number of phone lines (fixed access lines and mobile subscribers) per 100 of population. Between 40 and 50 lines per 100 of population indicates fairly good density. The OECD average was 48.9 in 1997. Teledensity is a measure of a country's economic development. (*Télédensité*)

Telemetry. The measurement or recording of an activity from a distance by monitoring equipment connected to a telecommunications network. (*Téléométrie*)

Telephone. A compact unit containing the parts necessary for the transmission and reception of speech and for ringing or signalling the party called, and which can be interconnected to any other such unit in the general telephone network. (*Téléphone*)

Terminal equipment. Equipment on customer premises connected to telecommunications lines: e.g., PBX's not used for public switching, telephone sets, routers, modems in customer sites, key systems, etc. (*Équipement de terminal*)

Voice services. Services generally associated with voice communication, narrowband or voice-grade communication, including voice telephony, fax, PSTN access, etc. (*Services de transmission de la voix*)

Voice-grade. A voice-grade access line can transmit voice or data at 64 kbps. They also transmit communications in an audio frequency range between 300 and 3000 Hz, typical of the human voice. (*Qualité téléphonique*)

Voice-grade equivalents ('B channel' equivalents). Refer to how many voice-grade lines would be needed to provide the same or equivalent bandwidth to the line in question. ISDN BRA lines (bandwidth = 144 kbps) are the equivalent of 2 voice-grade lines while ISDN PRA (bandwidth = 1.544 Mbps) are the equivalent of 23 voice-grade lines. (*Équivalent qualité téléphonique (équivalent « canal B »)*)

Wide area telephone service (WATS). Service provided by a telephone company enabling a subscriber to dial certain distant exchanges on either a flat rate or a measured time charge basis. (*Services interurbain planifié (WATS)*)

Wideband. Telecommunications of bandwidth greater than 64 kbps up to and including 1.544 Mbps. A telecommunications path with 2 way capabilities with speed in at least one direction fitting the criteria described above. (*Large bande*)

Wireless broadband services. A multipoint telecommunications systems that use radio frequencies to allow the transmission and/or reception of information such as multimedia, data, and video over radio frequency channels of 50 kHz or greater (e.g., LMCS). Either digital or analogue transmission technology is used. (*Service sans fil à large bande*)