

Société de transport de la Communauté
urbaine de Montréal

A company worth discovering !



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A company worth discovering !

It is with great pleasure that we present to you the following document which provides a wealth of information about the STCUM and its mission, which is to deliver transit services throughout the MUC.

The first part profiles the STCUM — network and services, ridership characteristics, evolution of budget and staff — and gives a great inside view of our company, the 14th largest in Quebec.

Public transit financing is at the heart of part two. Among other things, it takes a long hard look at the significant impact ten years of government decisions had upon the quality of services and the ridership. Furthermore, it gives testimony to the cost-reducing measures adopted by the STCUM in a very difficult situation.

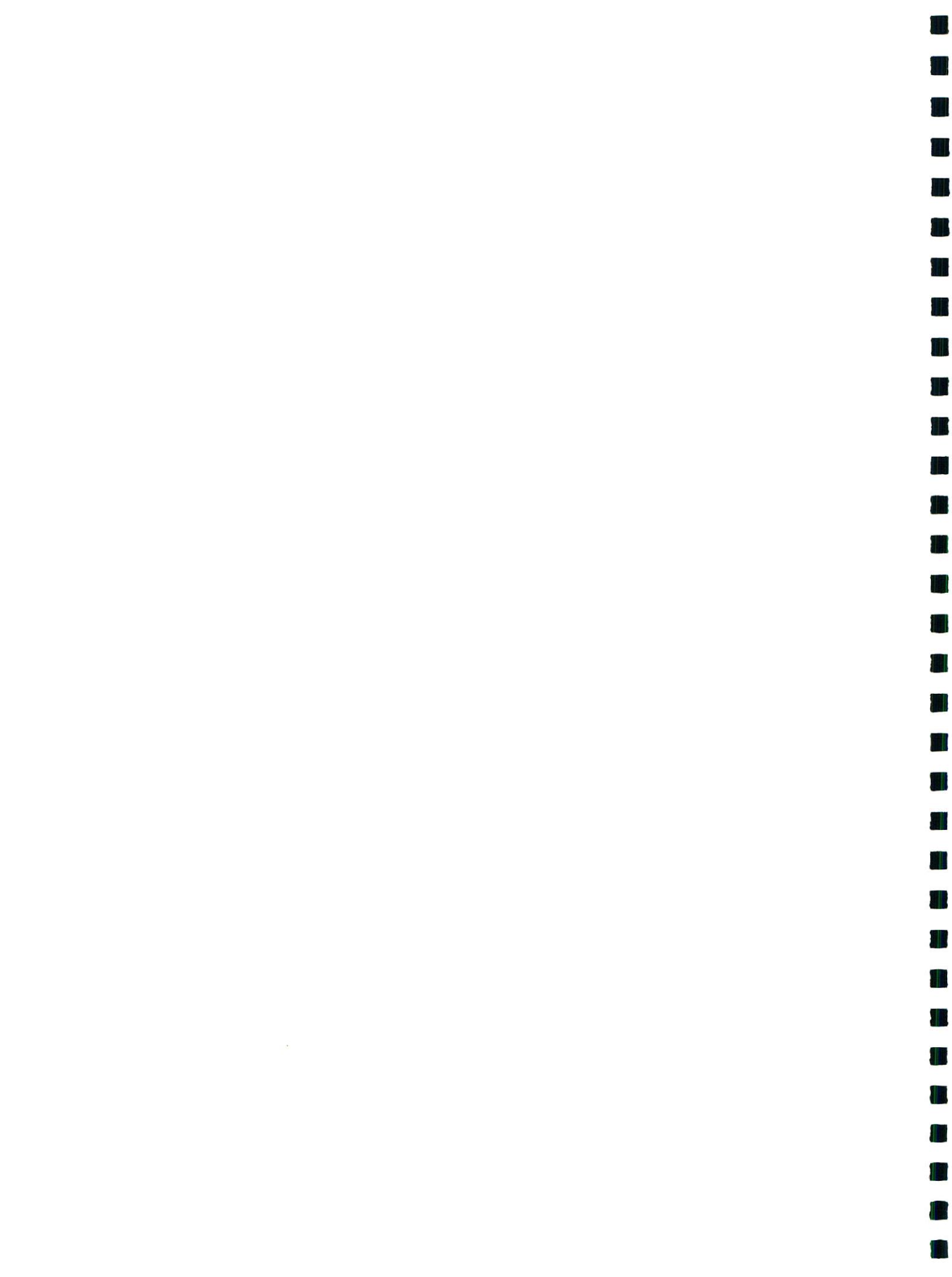
Finally, while showing the benefits of public transit, the third part warns against the dire consequences its decline would have on the environment, quality of life, and socio-economic development. Transit is a major player in our society. Read the next pages, and share our conviction : you will find the STCUM is a company worth discovering!

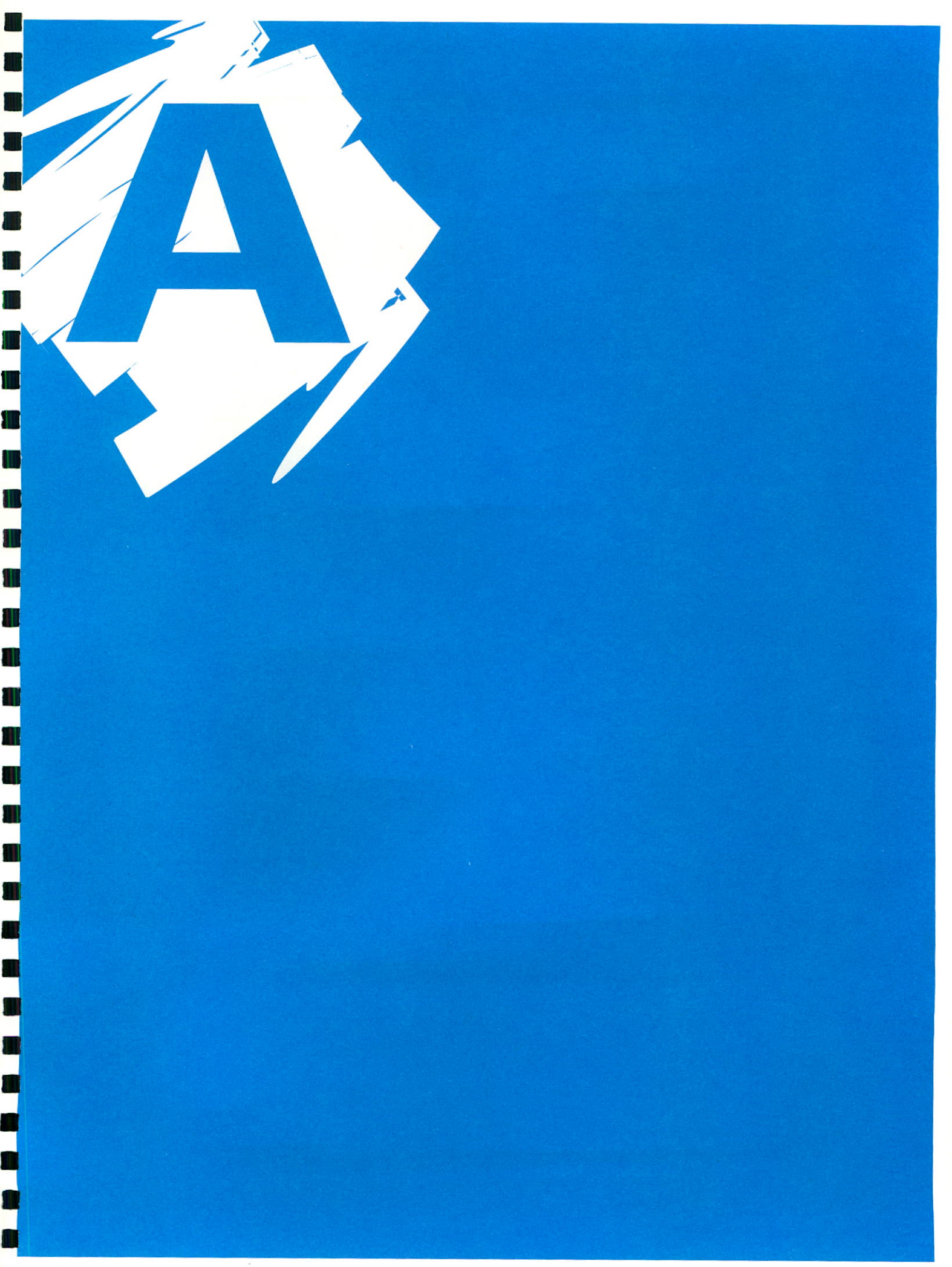


Frank Zampino
Chairman of the Board



Jacques Fortin
Director General







Providing transit service for all

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 **STCUM**

***Promote and manage
the public transit trips of the people
living in the territory it serves.***

To do so, it must:

- *Adjust services to ridership's needs and be committed to keeping clients well-informed, taking into account that public transit must be scheduled and even.*
- *Provide a fast, reliable, safe service, manned by courteous personnel.*
- *Help develop and promote mass transit.*

Vision 2000-2002 and values

A3



Team spirit • Transparency • Effectiveness



The STCUM — Key facts —

• Network and services (2000)



Metro

4 lines and **66 kilometres**
65 stations — **759 metro cars**
58.4 million km – cars



Bus

173 lines — **1600 buses** and
7 urban minibuses
4.3 million vehicles-hour



Paratransit

89 minibuses
Taxi services including 16 accessible taxicabs
1.3 million trips

• Ridership (1998)

341.5 million trips

— *more than a million trips per weekday*



Metro only

295,000 trips/day



Metro and buses

319,000 trips/day



Bus only

388,000 trips/day



Paratransit

5,000 trips/day

The STCUM

— Key facts —

• *Development in the ratio of public transit use (Weekday)*

	1987	1993	1998
Montreal Region (24 hours) ¹	23%	19%	17%
Montreal Urban Community (24 hours) ¹	35%	29%	26%
Downtown Montreal (24 hours) ²	55%	50%	47%
Downtown Montreal (morning rush hours) ³	59%	56%	54%

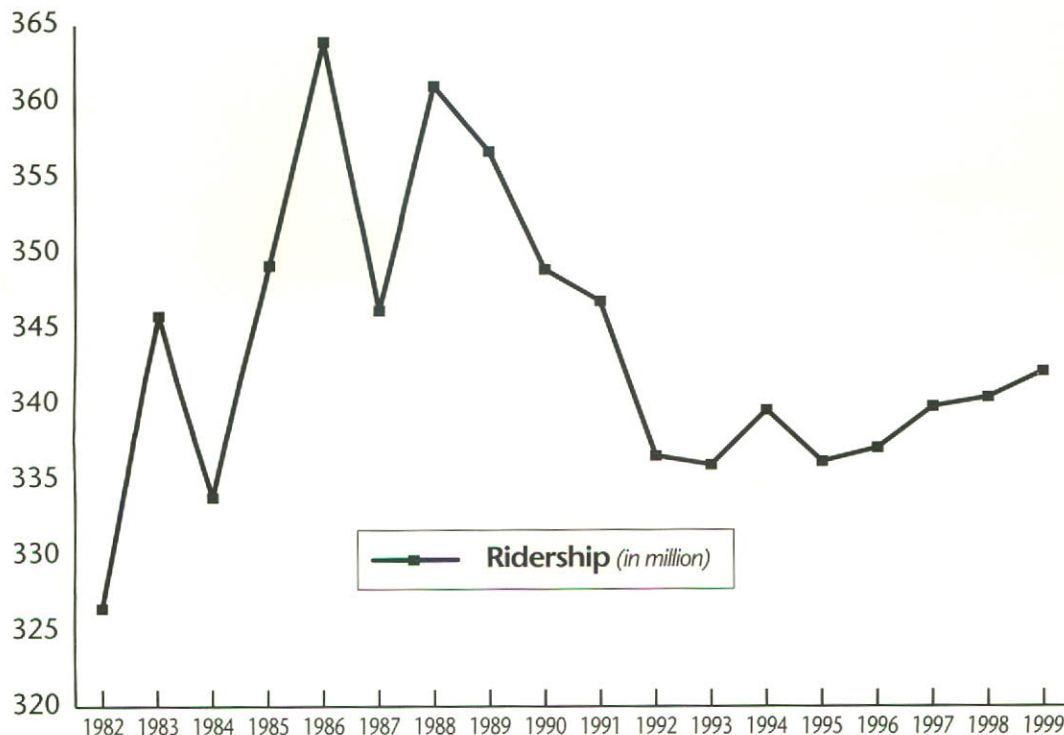
Source : Origin-Destination Surveys

1. Origin-destination commutes, not counting return trip home.

2. Destination commutes, not counting return trip home.

3. Destination commutes, all purposes.

• *Ridership from 1982 to 1999*



The STCUM *— Key facts —*

- *Budget and staff (2000)*¹

Operating expenses	\$545.7 M
Investment expenditures ²	\$108.2 M
Debt servicing — Commuter trains	\$15.7 M
Unexpected expenditures	\$5.9 M
TOTAL	\$675.5 M

6995 employees, 50% of whom are in direct contact with the public

6 labor unions representing **92 %** of all employees

- *Debt-financed investment expenditures*

2000-2002 : **\$419.5 M**

14th ranking company in Quebec³



1. STCUM, Budget 2000
2. Major periodic maintenance expenses paid in cash, debt service and portion of major projects paid in cash.
3. *Les Affaires*, *Classement des 500 plus grandes entreprises* (according to number of employees and revenues in Québec), 1999.

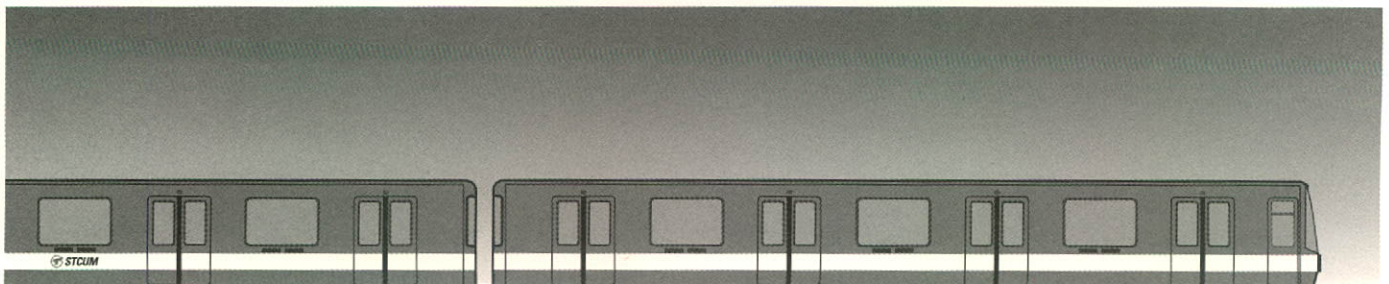
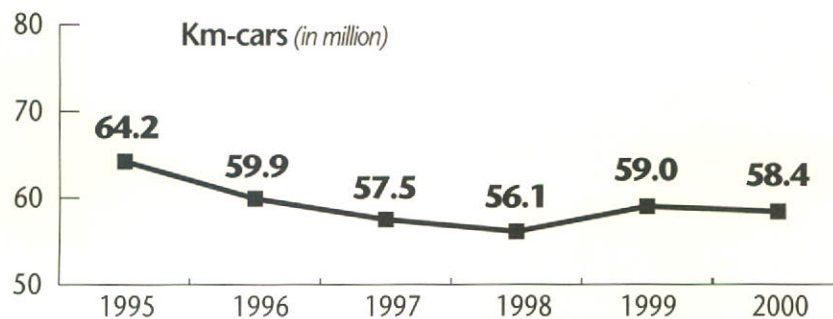
The metro — Service offer —

A7

- Service frequency (2000)

Maximum headway	Peak period	Off-peak and weekend period
Green Line	3 to 4 minutes	7 to 12 minutes
Orange Line	3 to 4 minutes	7 to 12 minutes
Yellow line	4.5 to 6 minutes	10 minutes
Blue Line	4 to 5 minutes	7.5 to 11 minutes

- Trend in service offer



A8

The metro — Customer profile —

<i>(Weekday)</i>	<i>Peak period</i>	<i>Off-peak period</i>
Number	373,000	241,000
% of all customers	61%	39%

Characteristics of ridership and trips

MUC residents		78%	85%
Age	Younger than 18 years old	10%	7%
	18 to 24 years old	25%	31%
	25 to 64 years old	63%	53%
	Older than 64 years old	2%	9%
Purpose	Work	56%	34%
	Studies	29%	22%
	Recreation, shopping, others	15%	44%
Ratio of customers from households without cars	34%	46%	



Source : Origin-Destination Survey 1998.

Buses

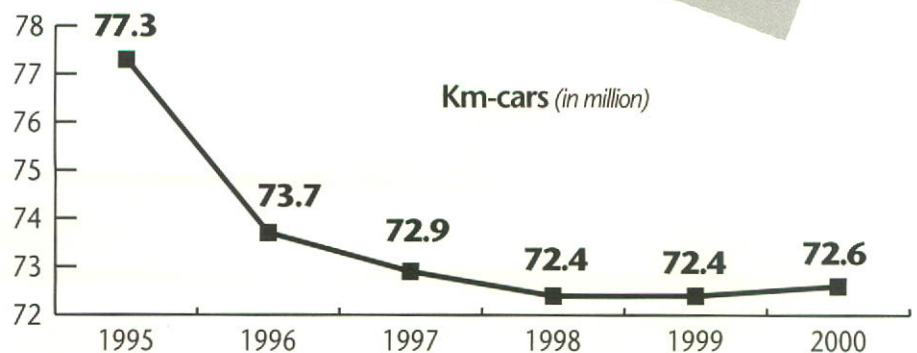
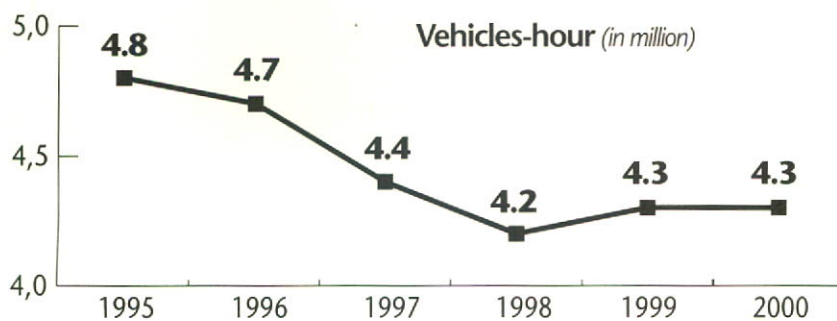
— Service offer —

A9

• *Number and types of lines - Frequency (2000)*

		<i>Peak period</i>	<i>Off-peak and weekend period</i>	<i>Night time</i>
Maximum headway		30 minutes	30 minutes	60 minutes
Maximum passenger load		65 passengers	45 passengers	—
Number of lines	- Regular	113	113	—
	- Peak times only	22	—	—
	- Express	3	—	—
	- Metrobus	9	—	—
	- R-Bus	3	—	—
	- Minibus	2	2	—
	- Seasonal	1	1	—
	- Night time	—	—	20
	TOTAL	153	116	20

• *Trend in service offer*



A10

Buses *— Customer profile —*

<i>(Weekday)</i>	<i>Peak period</i>	<i>Off-peak period</i>
Number	412,000	295,000
% of all customers	58%	42%

Characteristics of ridership and trips

MUC residents	95%	97%
Age		
Younger than 18 years old	23%	14%
18 to 24 years old	20%	23%
25 to 64 years old	52%	47%
Older than 64 years old	5%	16%
Purpose		
Work	44%	27%
Studies	39%	17%
Recreation, shopping, others	9%	27%
Ratio of customers from households without cars	39%	53%



Source : Origin-Destination Survey 1998.

Paratransit

— Customer profile —

A11

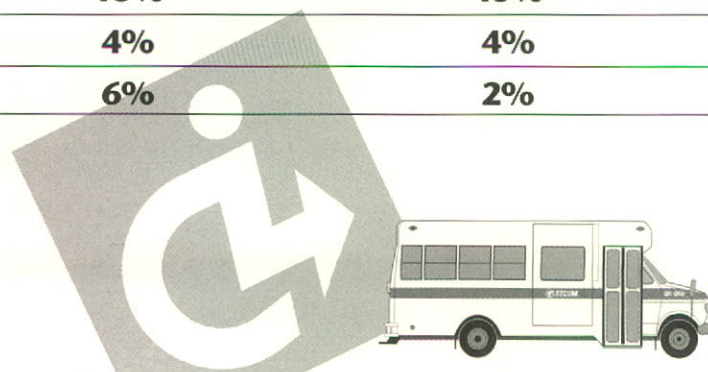
(1999 data)

Registered users	13,500		
Number of trips	- Regular	897,000	72%
	- Occasional	356,000	28%
	Total	1,253,000	
Transit mode	- Taxi	62%	
	- Minibus	38%	
Ridership	- Men	38%	Average : 55.7 years old
	- Women	62%	Average : 65.2 years old

Characteristics of ridership and trips

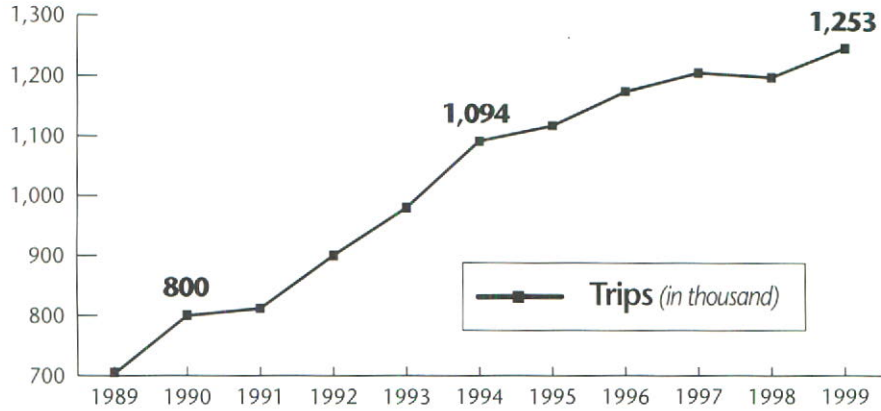
	Registered users	Ratio of trips
Age		
Younger than 21 years old	4%	2%
21 to 40 years old	15%	40%
41 to 60 years old	24%	35%
Older than 60 years old	57%	23%

	Registered users	Ratio of trips
Type		
Motor disability	75%	48%
Intellectual disability	16%	46%
Visual disability	4%	4%
Psychic disability	6%	2%

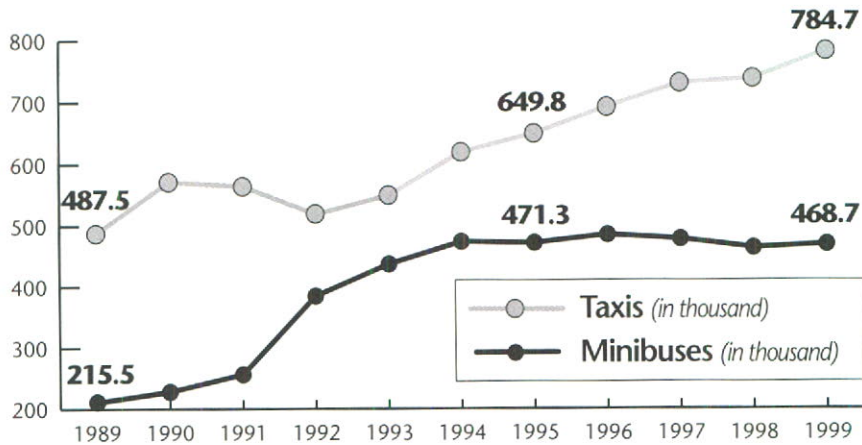


Paratransit — Trend in commutes —

- Trend in commutes*



- Trend in commutes - Minibuses and taxi services*



B

B

A sure value for MUC municipalities

Public funding for STCUM's operations in decline since 1994	1-2
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Continuous increase in customers' contribution	5-6
Major reduction in staff and cutbacks on all other expenditures	7-8
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Public funding for STCUM's operations in decline since 1994

B1

*In the last decade, direct contributions from the Government and indirect contributions (car registration and fuel taxes) **have declined by about \$122 million**, while municipalities' contributions **increased by \$96 million**.*

*After substantial increase from 1989 to 1992, public funding for buses and metro systems **decreased by \$59.2 million** since 1994.*

*During the same period of time, cost of servicing the debt of the STCUM **increased by \$20.3 million**.*

*Net funding for the STCUM operating expenses **therefore decreased by \$79.5 million** since 1994.*

<i>(in million \$)</i>	1990	1992	1994	1996	2000	Variation 1990-2000
Contribution by municipalities (not including trains)	135.1	282.7	281.5	278.7	231.6	+96.5
Government subsidies	171.0	28.6	30.0	—	—	-171.0
Others (including car registration fee and fuel taxes)	—	30.9	30.2	50.3	50.9	+50.9
Public funding to the STCUM	306.1	342.2	341.7	329.0	282.5	-23.6
LESS						
Net debt servicing borne by the STCUM	-6.2	-13.6	-20.6	-29.2	-40.9	-34.7
Net funding for operation expenditures	299.9	328.6	321.1	299.8	241.6	-58.3

B2

Public funding for STCUM's operations in decline since 1994

• Impact of changes in the funding of the STCUM (in million \$)

	True 1989	True 1990	True 1991	True 1992	True 1993	True 1994	True 1995	True 1996	True 1997	True 1998	Forec. 1999	Budget 2000
Contribution by municipalities	130.1	144.6	157.5	305.3	305.3	305.3	297.8	278.7	269.6	254.6	231.6	231.6
Commuter trains share	-9.1	-9.5	-14.1	-22.6	-24.3	-23.8	-24.6					
Contribution by municipalities (not including trains)	121.0	135.1	143.4	282.7	281.0	281.5	273.2	278.7	269.6	254.6	231.6	231.6
CMTC & car registration fee ¹		26.5	27.3	59.5	58.2	60.2	60.6					
Special contribution for spillover effects	5.0											
Quebec Government subsidy to operations	137.4	144.5	149.4									
AMT								50.3	48.4	48.8	49.0	49.1
STRSM ²									1.2	1.6	0.8	1.8
Subtotal —public funding	263.4	306.1	320.1	342.2	339.2	341.7	333.8	329.0	319.2	305.0	281.4	282.5
Net debt servicing ³	-4.0	-6.2	-11.5	-13.6	-15.8	-20.6	-25.0	-29.2	-30.6	-34.0	-36.5	-40.9
Public funding for buses and metro operations expenses	259.4	299.9	308.6	328.6	323.4	321.1	308.8	299.8	288.6	271.0	244.9	241.6

1. Introduction in 1992 of a regional \$30 car registration fee.

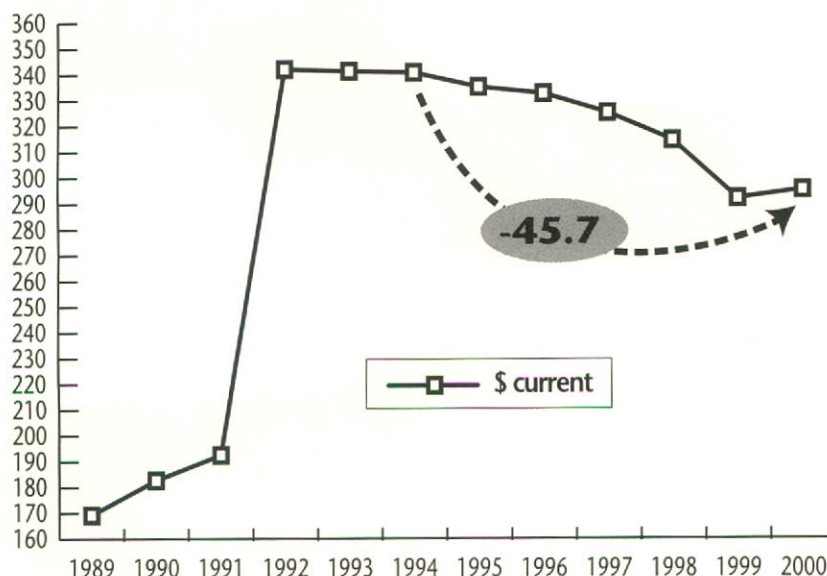
2. Compensation for metro line 4 (Longueuil).

3. Quebec Government subsidies to capital assets increased by \$23.6 million from 1990 to 2000.

Contribution by municipalities B3 to public transit in decline since 1994

- ✓ MUC municipalities contribute to the STCUM budget, the net debt servicing costs of the metro and the Agence métropolitaine de transport budget (AMT).
- ✓ In 2000, the MUC contributes **\$112.1 million** more to transit than in 1990.
- ✓ Following an increase of **\$149.4 million** after withdrawal by the Quebec government of its operating grant in 1992, the MUC contribution to public transit was stable from 1992 to 1994.
- ✓ A **\$73.7 million** decrease in contribution to the STCUM since 1994.
- ✓ Taking into account the transfer of commuter train services to the AMT in 1996, there has been since 1994:
 - ➔ a **\$59.2 million** decline in MUC contribution to STCUM activities,
 - ➔ a **\$47.5 million** decrease in MUC contribution to public transit activities.

• Contribution to public transit (in million \$)



Details on back →

B4 *Contribution by municipalities to public transit in decline since 1994*

- *Trend in the contribution of municipalities to public transit
(in million \$)*

	<i>True 1989</i>	<i>True 1990</i>	<i>True 1991</i>	<i>True 1992</i>	<i>True 1993</i>	<i>True 1994</i>	<i>True 1995</i>	<i>True 1996</i>	<i>True 1997</i>	<i>True 1998</i>	<i>Forecast 1999</i>	<i>Budget 2000</i>
Contribution to the STCUM	130.1	144.6	157.5	305.3	305.3	305.3	297.8	278.7	269.6	254.6	231.6	231.6
+ Net debt servicing costs of the metro	39.1	38.1	35.0	36.6	35.8	35.2	37.1	35.1	34.7	35.5	35.8	39.1
+ Contribution to the AMT	—	—	—	—	—	—	—	18.5 ¹	20.5 ²	24.0 ³	24.1 ⁴	24.1 ⁴
<i>Contribution for public transit</i>												
Current \$	<u>169.2</u>	<u>182.7</u>	<u>192.5</u>	<u>341.9</u>	<u>341.1</u>	<u>340.5</u>	<u>334.9</u>	<u>332.3</u>	<u>324.8</u>	<u>314.1</u>	<u>291.5</u>	<u>294.8</u>
Constant \$	<u>169.2</u>	<u>175.3</u>	<u>171.9</u>	<u>299.6</u>	<u>294.8</u>	<u>298.6</u>	<u>288.6</u>	<u>281.6</u>	<u>271.5</u>	<u>258.5</u>	<u>236.1</u>	<u>235.0</u>

1. Commuter trains \$14.4 million + AMT capital expenditures fund \$4.1 million.

2. Commuter trains \$14.3 million + AMT capital expenditures fund \$6.2 million.

3. Commuter trains \$14.4 million + AMT capital expenditures fund \$9.6 million.

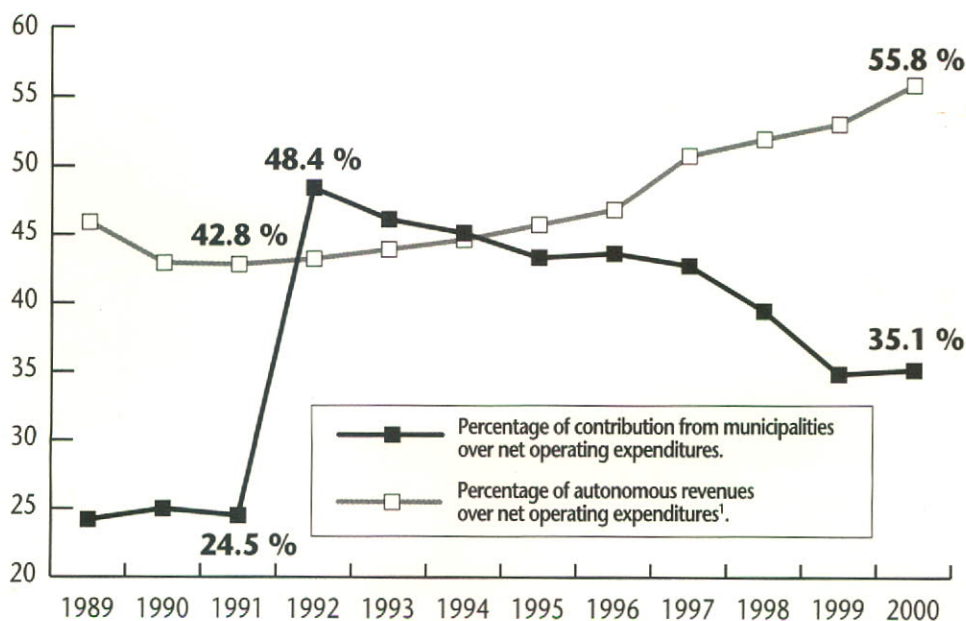
4. Commuter trains \$14.5 million + AMT capital expenditures fund \$9.6 million

Continuous increase in customers' contribution

Municipal contributions to operating expenditures jumped from 24.5% to 48.4% in 1992 and then slowly decreased to 35.1% in 2000.

During the same period, customers' contribution was on the rise from 42.8% to 55.8%.

- Trend in contributions from customers and municipalities to operating expenditures



1. Passengers revenue, metropolitan revenue and other revenues are part of autonomous revenues.

Details on back. →

B6

Continuous increase in customers' contribution

- *Trend in autonomous revenues² and municipal contribution to operating expenditures*

(in million \$)

	True 1989	True 1990	True 1991	True 1992	True 1993	True 1994	True 1995	True 1996	True 1997	True 1998	Forec. 1999	Budget 2000
Total contribution from municipalities to operating expenditures ¹ current \$	117.0	128.9	131.9	269.1	265.2	260.9	248.2	249.5	239.0	220.0	195.1	190.7
Autonomous revenues current \$	221.6	221.4	229.7	240.4	252.5	257.9	261.7	267.7	283.4	290.3	297.4	303.2
Net operating expenditures ³	482.9	515.7	537.3	556.4	574.8	578.6	572.6	571.6	559.3	559.0	560.7	543.6
Percentage of contribution from municipalities over net operating expenditures	24.2%	25.0%	24.5%	48.4%	46.1%	45.1%	43.3%	43.6%	42.7%	39.4%	34.8%	35.1%
Percentage of autonomous revenues over net operating expenditures	45.9%	42.9%	42.8%	43.2%	43.9%	44.6%	45.7%	46.8%	50.7%	51.9%	53.0%	55.8%

1. Contribution from municipalities has been adjusted to take into account commuter trains.

2. Includes passenger revenues, metropolitan revenues and other revenues.

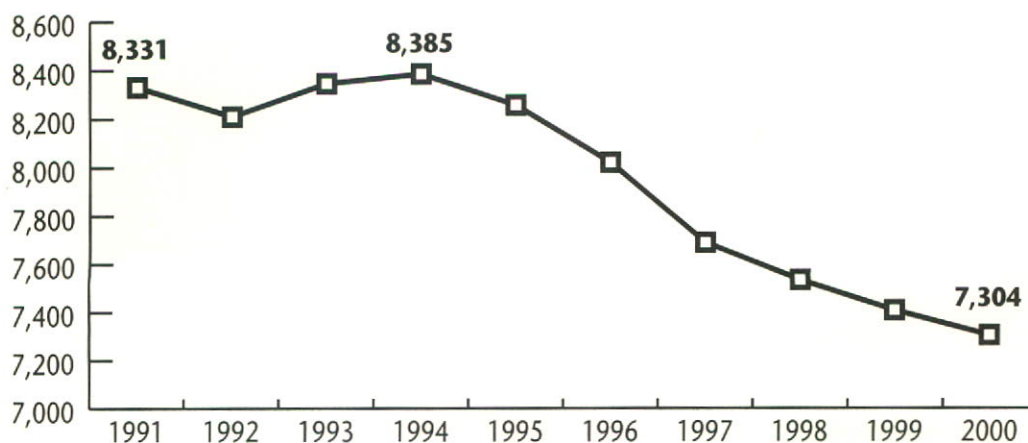
3. Net operating expenditures : Total net expenditures — net debt servicing.

Total net expenditures : Net expenditures — capital expenditures subsidy and AMT contribution to commuter trains debt servicing — Paratransit subsidy.

Major reduction in staff and cutbacks on all other expenditures

- ✓ *The average annual workforce has been reduced by 772 positions since 1995, a **9.9% cut**.*
- ✓ *Overtime was cut from 1,062,455 hours in 1994, to 529,043 hours in 2000, a **50% reduction**.*
- ✓ *Since 1994, the combined reductions in staff and overtime have been equivalent to 1,081 positions, a **12.9% cut**.*
- ✓ *Expenses for goods and services have fallen by \$14.8M since 1994, a **11.7% decline**.*

• *Trend in staffing and overtime in full-time equivalent staff*



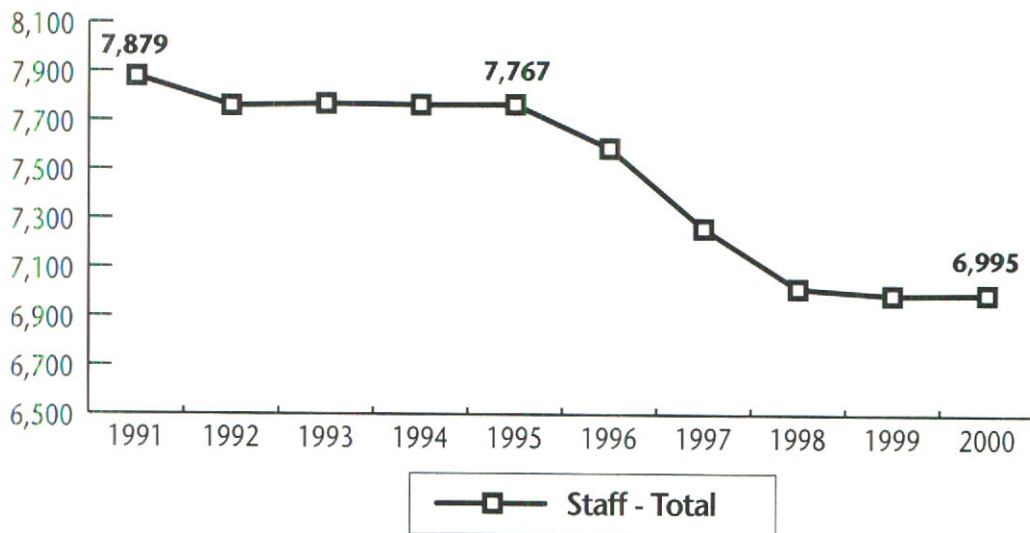
	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Staff - Total	7,879	7,760	7,769	7,765	7,767	7,589	7,262	7,017	6,991	6,995
Overtime - Equivalent staff	452	450	577	620	490	432	427	517	417	309
TOTAL	8,331	8,210	8,346	8,385	8,257	8,021	7,689	7,534	7,408	7,304

B8

Major reduction in staff and cutbacks on all other expenditures

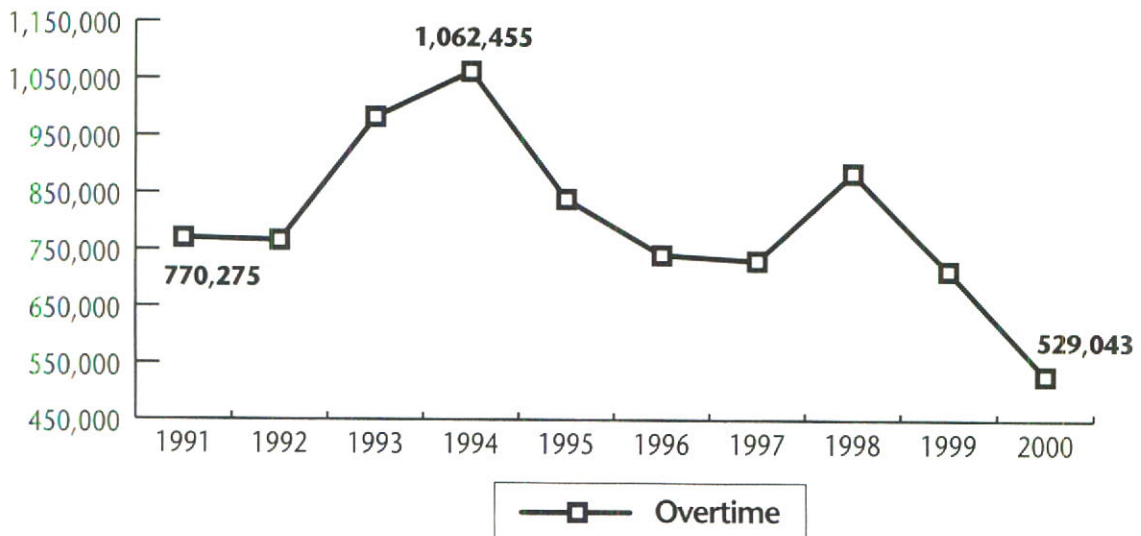
• Trend in staffing and overtime

• Staff



Note : Staff includes employees on workmen's compensation.

• Overtime

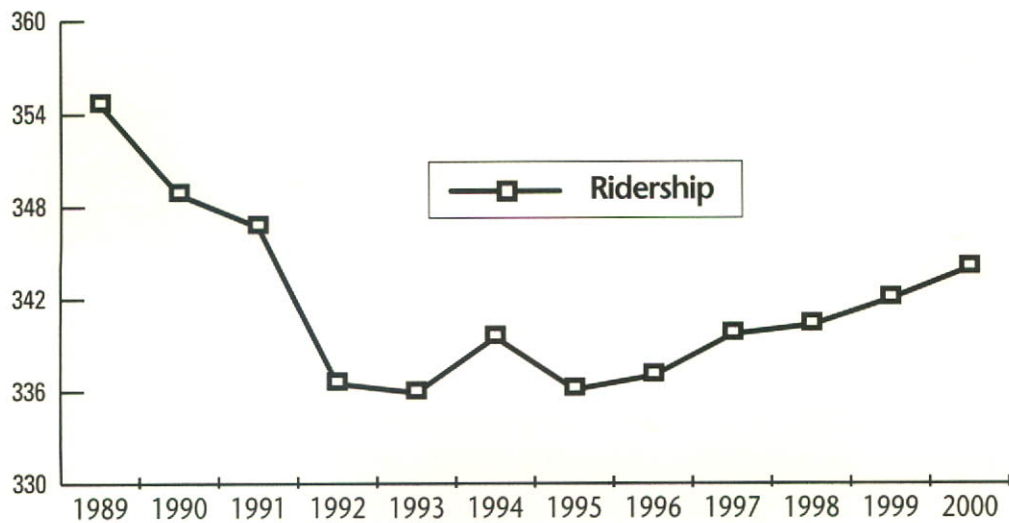


Slight increase in ridership

The steep fare increase in the early 1990s gave way to a pronounced decline in ridership.

• *Ridership — Buses and metro (in million)*

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	Budget 2000
Ridership	354.6	348.8	346.7	336.5	335.9	339.5	336.1	337.0	339.7	340.3	342.0	344.0



B10

Fares from 1989 to 2000

(in dollars)	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
• STCUM												
Cash												
Regular fare	1.05	1.25	1.50	1.60	1.75	1.75	1.75	1.85	1.85	1.85	1.90	2.00
Reduced fare	0.50	0.55	0.75	0.80	0.90	0.90	0.90	1.00	1.00	1.00	1.00	1.00
Tickets												
Regular fare	0.94	1.00	1.00	1.08	1.17	1.17	1.25	1.29	1.33	1.33	1.38	1.38
Reduced fare	0.42	0.43	0.42	0.45	0.54	0.54	0.58	0.63	0.67	0.67	0.71	0.71
CAM												
Regular fare	31.00	32.75	38.00	41.00	43.00	43.00	43.50	44.50	45.00	45.00	46.00	47.00
Reduced fare	12.00	12.50	14.50	15.50	17.50	17.50	18.00	18.50	19.00	19.00	19.50	20.00
CAM hebdo¹												
Regular fare	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	12.00	12.25	12.50
Reduced fare	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.00	6.25	6.50
• STRSM												
Cash												
Regular fare	1.50	1.75	2.00	2.50	2.55	2.55	2.55	2.55	2.55	2.55	2.55	2.60
Reduced fare	0.75	0.75	0.75	1.25	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.35
Tickets												
Regular fare	1.20	1.30	1.40	1.75	1.80	1.80	1.80	1.80	1.80	1.80	1.83	1.89
Reduced fare	0.60	0.60	0.70	1.00	1.02	1.02	1.02	1.02	1.02	1.02	1.04	1.06
Carte locale¹												
Regular fare	35.00	37.00	40.00	53.00	54.50	54.50	54.50	54.50	54.50	54.50	55.50	56.25
Intermediate fare	N/A	N/A	N/A	N/A	S/O	N/A	N/A	N/A	N/A	N/A	40.50	41.50
Reduced fare	14.00	17.00	20.00	28.00	28.80	28.80	28.80	28.80	28.80	28.80	29.25	30.00
• STL												
Cash¹												
Regular fare	1.35	1.50	1.75	2.50	2.60	2.60	2.60	2.60	2.60	2.50	2.50	2.55
Student fare	0.75	0.80	1.00	1.50	1.50	1.50	1.50	1.50	1.50	N/A	N/A	N/A
Pionnier fare	0.45	0.45	0.50	1.00	1.00	1.00	1.00	1.00	1.00	N/A	N/A	N/A
Reduced fare ¹	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.50	1.50	1.55
Tickets¹												
Regular fare	1.20	1.25	1.50	N/A	N/A	N/A	2.00	2.00	2.00	2.00	2.05	2.00/2.25
Student fare	0.63	0.65	0.75	N/A	N/A	N/A	1.11	1.11	1.11	N/A	N/A	N/A
Pionnier fare	0.38	0.38	0.45	N/A	N/A	N/A	1.00	1.00	1.00	N/A	N/A	N/A
Reduced fare	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.11	1.10	1.07/1.25
Local card¹												
Regular fare	35.50	37.00	41.00	53.00	54.50	54.50	54.50	54.50	56.00	56.00	57.00	56.00
Intermediate fare	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	40.50	40.50
Student fare	18.50	18.50	20.50	N/A	N/A	N/A	N/A	N/A	N/A	30.00	30.50	31.50
• Metropolitan fare												
Metropolitan card (zone 3)²												
Regular fare	53.75	42.00	52.00	69.00	72.00	72.00	72.00	73.00	73.00	73.00	74.00	75.00
Intermediate fare	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	60.00
Reduced fare	24.00	21.00	26.00	38.00	39.50	39.50	39.50	40.00	40.00	40.00	40.50	42.00

1. N/A indicates that fare was not available at that time.

2. In 1989, STRSM's customers using the STCUM system bought an integrated fare at the indicated cost. A fare rebate was given to STL's customers when they bought two local fares.



C



A vital economic player in the greater Montreal region

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Montrealers are heavy users of transit services

C1

The proportion of urban trips made through public transit is much higher in Montreal and Toronto than in major U.S. cities.

	Montreal region	Toronto region	Major US cities*
<ul style="list-style-type: none"> Average annual automobile use – per person 	4,746 km	5,680 km	11,155 km
<ul style="list-style-type: none"> Average annual trips by public transit – per person 	222	210	63
<ul style="list-style-type: none"> Proportion of passengers-kms by public transit 	12.8 %	15 %	3.1 %
<ul style="list-style-type: none"> Urban density : number of residents/hectare 	33.8	25.9	14.2

* Boston, Chicago, Denver, Detroit, Houston, Los Angeles, New York, Phoenix, Portland, Sacramento, San Diego, San Francisco et Washington – metropolitan areas.

C2

MUC households spend 24% less on transportation

Households in the MUC spend an average of **\$1,250** less on transportation than households elsewhere in Québec.

For MUC residents, this represents a total saving of **\$900 million**.

This beneficial situation is directly related to the higher use of public transit (STCUM) by MUC residents.

- *Annual transportation expenses by household*

MUC	\$3,947
Québec — Outside MUC	\$5,197
Difference	\$1,250

- *Consumption expenses for certain items*

	MUC	Québec outside MUC	Difference %
Total current consumption	\$28,592	\$30,018	-4.7
Food	\$5,514	\$5,846	-5.6
Transportation	\$3,947	\$5,197	-24.0
Number of households	716,510	2,126,610	

C3

Between now and 2011, four new bridges would have to be build just to keep travelling time at current level

In 1993, the average time for a car trip to and on the island of Montreal during the morning peak period was **31.4 minutes**.

The number of daily trips is constantly growing. As the road network is already saturated during rush hours, any increase in trips or shift from public transportation to car travel has a severe impact upon it.

In 1995, using travel data gathered in 1993, the STCUM and Québec Department of Transportation projected travelling times according to various scenarios.

- If 50,000 trips (7.5% of total) were transferred from transit to cars, average travelling time would increase by **more than 5 minutes**.
- Transferring 50% of public transportation trips to cars would result in traffic paralysis, with an average travelling time of **1 1/2 hour**.
- By the year 2011, based on a natural increase of 300,000 trips and on trends in the choice of transportation mode (transit vs. car), the average travelling time will have almost doubled, to more than **60 minutes**. Congestion will have slowed traffic by 13 km/hour.

- ***Travelling time to and within the MUC (morning peak period)***

	<i>Survey results 1993</i>	<i>Transfer of 7.5 % of trips towards car</i>	<i>2011 Scenario</i>
Number of car trips	639,472	687,305	831,505
Average travelling time	31.4 min	36.8 min	59.7 min
Additional travelling time	0.0 min	+ 5.4 min	+ 28.3 min

Sources : Québec Dept. of Transportation, Vers un plan de transport pour la région de Montréal, Phase 1 : choisir, diagnostic et orientation, 1995. Études d'impact socio-économique, Financial planning and budget Dept., STCUM, 1996.

Four highway bridges and many kilometers of roads would have to be built, at great cost, to absorb this increase in traffic.

Public transit offers the best solution—at the lowest cost—to relieve road congestion. What's more, while being soundly ecological, public transit contributes to improve the competitiveness of the Montreal region.

Congestion hurts business

Road congestion has major economic impacts on MUC residents and businesses.

In the United States costs related to traffic congestion are evaluated at US\$75 billion¹, i.e. more than 1% of the GDP.

- ✓ Los Angeles : **US\$9 billion**
- ✓ New York : **US\$8 billion**
- ✓ Federal Express and UPS report that every five additional minutes of congestion per day costs them **US\$40 million**² a year.

Surveys carried out by the Ontario Ministry of Transportation tell that in the early 1990s road congestion related costs in the Toronto region reached about \$2 billion a year in lost time and productivity with half of it borne by businesses.

In the Montreal region, congestion related costs have also been calculated for three key factors:

	<i>MUC</i>	<i>Outside MUC</i>	<i>Region</i>
Lost time	\$230 M	\$171 M	\$401 M
Vehicle operation costs	\$37.5 M	\$28.9 M	\$66.4 M
Pollution	\$18.5 M	\$16.2 M	\$34.7 M
Total	\$286 M	\$216 M	\$502.1 M

Based on the 50/50 cost distribution between companies and users used in the Toronto surveys, roadway congestion costs businesses some \$140 million to the MUC businesses and \$250 million for the region.

1. Source : Aldaron Inc., Dollars and sense, 1997

2. FTA 1996 Report.

The STCUM benefits automobile users

C5

Public transit helps limit the use and subsequent congestion of roadways. In this way, it benefits everyone in the MUC, even those who never use any STCUM services.

In a survey, **50%** of adults who normally use the STCUM indicated that they could have made their last transit trip by car...

and

75% of the adult users of public transportation indicated that they also use a car for certain trips¹.

Finally, a number of studies indicate that the establishment of efficient new public transportation services results in major shifts to transit by automobile users.

In the Montreal region, this has been proven by the renovation of the Deux-Montagnes train line and by the implementation of train service to Blainville.

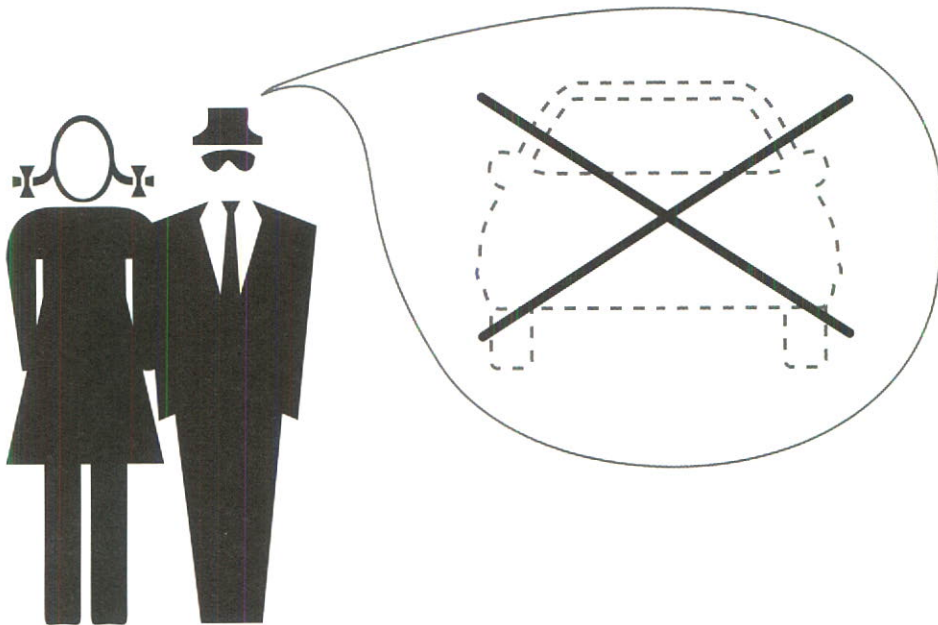
In this last instance, **76%** of customers on the new line are former car commuters.

In the United States, major investments in public transportation in cities such as Portland, Chicago, Atlanta and St.Louis have resulted in major shifts toward this mode of transportation.

1. Source : Saine marketing, Sondage Image Perception, 1996.

The STCUM: an essential service

33% of MUC households
do not own a car. For most of them,
STCUM services are essential.



People on social assistance
make **30 to 40% fewer** trips
than the average citizens,
but use public transit **twice** as frequently.

The Kyoto Protocol is an international agreement reached by 154 countries (including Canada) limiting greenhouse gas (GHG)¹ emission to 5% below 1990 levels. Reduction objectives set for each country will have to be met and maintained from 2008 to 2012. An inventory of gases will be carried out and published periodically as a close follow-up to the agreement.

To give an idea of the magnitude of the problem, it must be said that greenhouse effect is a natural phenomenon by which the atmosphere acts as an insulator to maintain Earth's global temperature at 15°C.

GHGs are already present in the atmosphere. They reflect heat back to Earth. Concentrations of such gases are responsible for the increase in warming of the atmosphere, thus enhancing the greenhouse effect. This in turn has dire consequences on the environment and all that follows: e.g. more intense, prolonged and frequent heat waves, proliferation of tropical diseases, sea-level rising, and flooding.



It is estimated that Earth's temperature has risen by 0.3°C in the last 130 years. However, because human activities create gas emissions, it is forecasted that temperature will rise by such an amount, decade after decade, for the near future.

Canada is facing up a major challenge. GHG emissions have increased by 13% between 1990 and 1997, and the country must now reduce emissions by 21%, by 2008, to assume its obligations to the agreement.

It was evaluated back in 1995 that 37% of GHG emissions came from automobiles, 26% from trucks and 19% from other sources².

In urban areas, as low as 3% of GHG emissions is caused by public transit. In this context, one must admit that public transit will have in the very near future an important role to play by offering a true alternative to the GHG problem.

1. The gases targeted by the Protocol are carbon dioxide, nitrous oxide, methane, CFCs (chlorofluorocarbons), and sulfur hexafluoride.
2. Ministry of natural resources, May 1999.

C8

A single bus carries as much people as 50 cars... and pollutes 18 times less!

A car driven in a Canadian city carries an average of 1.3 person, while a bus travelling during rush hour carries an average of 65 persons – or 50 times more than a car (Association of outdoor advertisers).

A single bus pollutes more than a single car; but if one does the ratio per passenger :

— ***A bus pollutes 6 to 18 times less than a car.*** —

• ***Pollutant emissions***

	<i>Per vehicle</i>		<i>Per passenger / vehicle</i>		<i>Proportion</i>
	<i>Car</i>	<i>Bus</i>	<i>Car</i>	<i>Bus</i>	<i>Bus/Car</i>
Nitrous oxide (NO – gr/km)	1.12	8.97	0.86	0.13	1/6
Carbon dioxide (CO2 – gr/km)*	198	1 553	152	23.9	1/6
Hydrocarbon (parts/million)	18	50	13.8	0.76	1/18

* Major cause of the greenhouse effect (ozone layer – global warming).

— ***One metro can carry as much passengers as 15 buses
and has NO emission of pollutants*** —

The STCUM is responsible for less than 2% of the pollution

C9

*Powered by electricity, the Montreal metro
does not contribute to air pollution.*

*With **27%** of all trips within the MUC, STCUM buses are responsible
for less than **2%** of the air pollution in the region. Meanwhile,
cars are accountable for about half the emissions
of airborne pollutants.*

	% OF EMISSIONS	
	<i>Car</i>	<i>Public transit</i>
Nitrous oxide (NO)	41	2
Carbon dioxide (CO2)*	45	2
Hydrocarbon (HATP)	59	1

* Major cause of the greenhouse effect (ozone layer – global warming).

Source : Régie régionale de la Santé et des services sociaux de Montréal-Centre, *Pollution atmosphérique et impacts sur la santé et l'environnement dans la grande région de Montréal*, March 1998.

C10

The STCUM brings in close to a quarter billion dollars to governments

According to a 1996 study conducted by the Bureau de la statistique du Québec, STCUM operating and capital expenditures for 2000 will translate into some 9,200 direct jobs (STCUM and suppliers alike) plus an additional 11,900 man/year indirect jobs.

This economic activity brought in **\$229 million** in revenues to both federal and provincial governments.

• *Impact of operating and capital expenditures of the STCUM (2000)*

✓	STCUM operations budget	\$675,483,000
✓	STCUM capital investments budget	\$83,742,000
✓	Payroll (STCUM employees) – before income taxes	\$445,670,000
✓	Workforce of the STCUM and of its suppliers	9,200 persons-year
✓	Total workforce (direct and indirect)	21,100 persons-year
✓	Revenues for the Québec government – Income tax, other taxes and incidental taxation	\$144,597,000
✓	Revenues for the Canadian government – Income tax, other taxes and incidental taxation	\$84,851,000
✓	Total revenues to governments	\$229,448,000

A dollar invested in public transit generates \$4 to \$5 for the community

Investments made in public transit infrastructures are a major stimulus to the economy. These investments allow businesses to perform more efficiently and are as essential as investments made by businesses themselves.

In a report to the *Economic Policy Institute of Washington*, David Alan Aschauer noted that public investments are not all equal in terms of pay-backs. In the transportation sector, the impacts of highway and transit investments are significantly different:

*"The benefit-to-cost ratios for transit spending... exceed those for highway spending to a considerable degree. In fact, transit spending can carry over twice the potential to impact productivity as does highway spending."*¹

For each dollar invested in the development of public transportation, the U.S. Department of Transportation estimates that the community gains **between \$4 and \$5.**

This difference in economic efficiency is even more impressive when one compares investments in public transportation with automobile purchases. For instance, an investment in new transit vehicles (made in Québec) will have a much stronger economic impact than an investment of the same value in the purchase of automobiles (most of which are made outside the province).

1. David Alan Aschauer, *Public Investment and Private Sector Growth : the Economics Benefits of Reducing America's "Third Deficit"*, Economic Policy Institute, Washington DC, 1990 and Transportation Spending and Economic Growth : the Effect of Transit and Highway Expenditures, 1991.

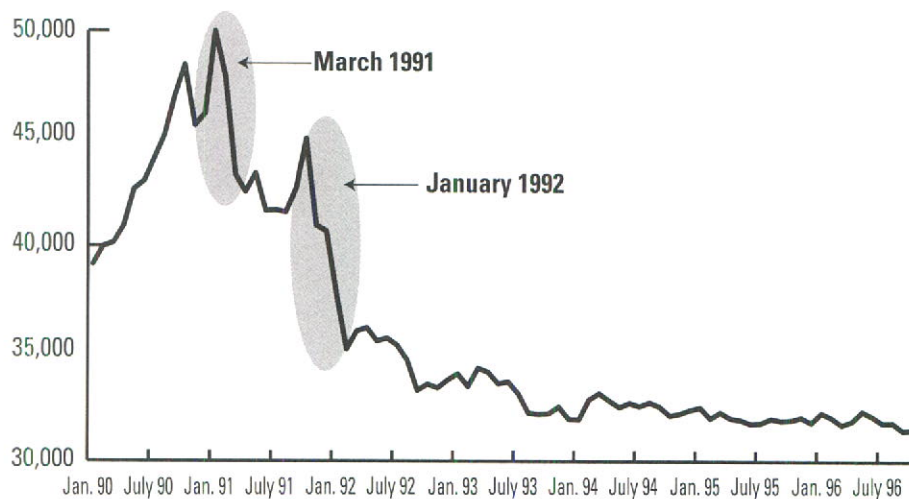
Fare increases bring down ridership

As with any good and service, the use of public transit services is affected by cost levels. This impact was clearly felt with the introduction in 1990 of the Regional transit card which gave customers access to services provided by the STCUM, STL and STRSM.

Following a strong increase in sales of the Regional card all through 1990, the cost hike from \$42 to \$52 in March 1991 had a major negative impact on sales. The increase to \$69 in January 1992 once again caused a steep decline in sales.

This only corroborates what numerous studies show :
a 10% fare increase will bring down ridership by between 2% and 5%.

- *Sales of regional cards from January 1990 to October 1996 (seasonally adjusted data)*



Major impact of a 15% shift of transit users toward cars

C13

A 60% fare increase that would raise the cost of an STCUM monthly card from \$45 to \$72 and generate \$90 million more in revenue would also reduce transit use by about **15%** according to a 1996 study.

And this decline would cost the Montreal region and the community at least an additional **\$150 million¹**.

<i>(in million \$)</i>	<i>Annual costs</i>
Cost of traffic congestion	56
Net variable expenses related to the use of cars	22
Variable expenses assumed by truckers	15
Parking fares	12
Social costs of traffic accidents	12
Costs related to air pollution	27
Costs related to noise pollution	0.8
Total annual costs	\$148.8 M

This is only a partial evaluation. For example, impacts on employment, population shifts and municipal economies should also be considered. Such a situation would incite citizens and businesses to move away from the MUC to outlying residential, commercial or industrial areas. This trend would create an impact on land values on the island and would affect the municipalities' fiscal base and finances.

1. ADEC Inc., *Évaluation des effets socio-économiques d'une variation tarifaire*, April 1996.

C14

Public transit : a citizens' priority

Conducted in 1996 on behalf of *Radio-Canada* and *Le Journal de Montréal*, a *Léger et Léger* survey shows how the citizens of the Montreal region rated different aspects of their quality of life.

Results of the survey were expressed on a scale of 0 to 10, zero showing low satisfaction and ten great satisfaction.

<i>Aspects</i>	<i>Montreal</i>	<i>MUC suburbs</i>	<i>Suburbs outside MUC</i>
Quality of public transit	7.55	7.35	5.67
Quality of drinking water	7.05	7.22	7.11
Quality of school services	7.04	7.46	7.58
Parks and green spaces	6.97	7.69	8.05
Quality of health services	6.65	6.77	7.34
Noise level	6.19	6.88	7.77
Traffic volumes	5.69	6.51	7.14
Air quality	5.66	6.63	7.48

The highest values are found in the outlying suburbs of the MUC. The sole exception being public transportation where Montreal and other MUC municipalities are well ahead.

Lowest-rated aspects in the MUC are air quality and traffic volumes, both of which would benefit directly from improvements to public transit.

Public transit : a citizens' priority

C15

Whether or not they use public transportation, residents of the Montreal Urban Community recognize the necessity of ensuring its development. Surveys conducted among 2,000 MUC residents clearly demonstrated that they would support investment in public transportation¹.

Respondents identified public transit as a top target for increased fundings by municipalities. This attitude was evidenced strongly by car users and STCUM customers alike.

<i>Public services</i>	<i>Invest more to improve quality</i>	<i>Invest the same to maintain quality</i>	<i>Invest less even if it means reducing quality</i>
Road repair	77%	21%	2%
Drinking water	63%	36%	1%
Public transit	54%	43%	3%
Parks and green spaces	53%	42%	5%
Snow removal	52%	44%	4%
Police service	50%	43%	7%
Firefighting	46%	51%	3%
Municipal libraries	42%	51%	7%
Parks and recreation	39%	52%	9%
Garbage collection	33%	61%	6%

Continued investment in public transportation is a public priority.

1. Source : STCUM, Sondage Image Perception, September-December 1999.

C16

STCUM activities : a net profit of \$2 billion for the community

If all STCUM customers, and they made 340.3 million trips in 1998, were to turn to cars for daily transit, additional cost for the community would soar to around \$3 billion annually; while, as for now, public transit costs are just over \$800 million (excluding trains). Major cost outputs are traffic congestion with nearly 60% of all money, followed by automobile usage at 24%¹.

<i>Cost items</i>	<i>Additional cost (with a 100% sift toward car)</i>	<i>Cost percentage</i>
Road congestion — cars	\$1,350,000,000	47.2%
Road congestion — truck-delivered goods	\$400,000,000	14%
Variable expenses related to the use of cars	\$700,000,000	24.5%
Accidents	\$165,000,000	5.8%
Air pollution	\$39,000,000	1.4%
Police service — MUC	\$34,000,000	1.2%
Fire department — MUC	\$13,000,000	0.5%
Parking (share not assumed by drivers)	\$160,000,000	5.6%
Gross social and economic costs	\$2,860,000,000	100%
Less public transit expenses	\$810,000,000	
Net social and economic costs	\$2,050,000,000	

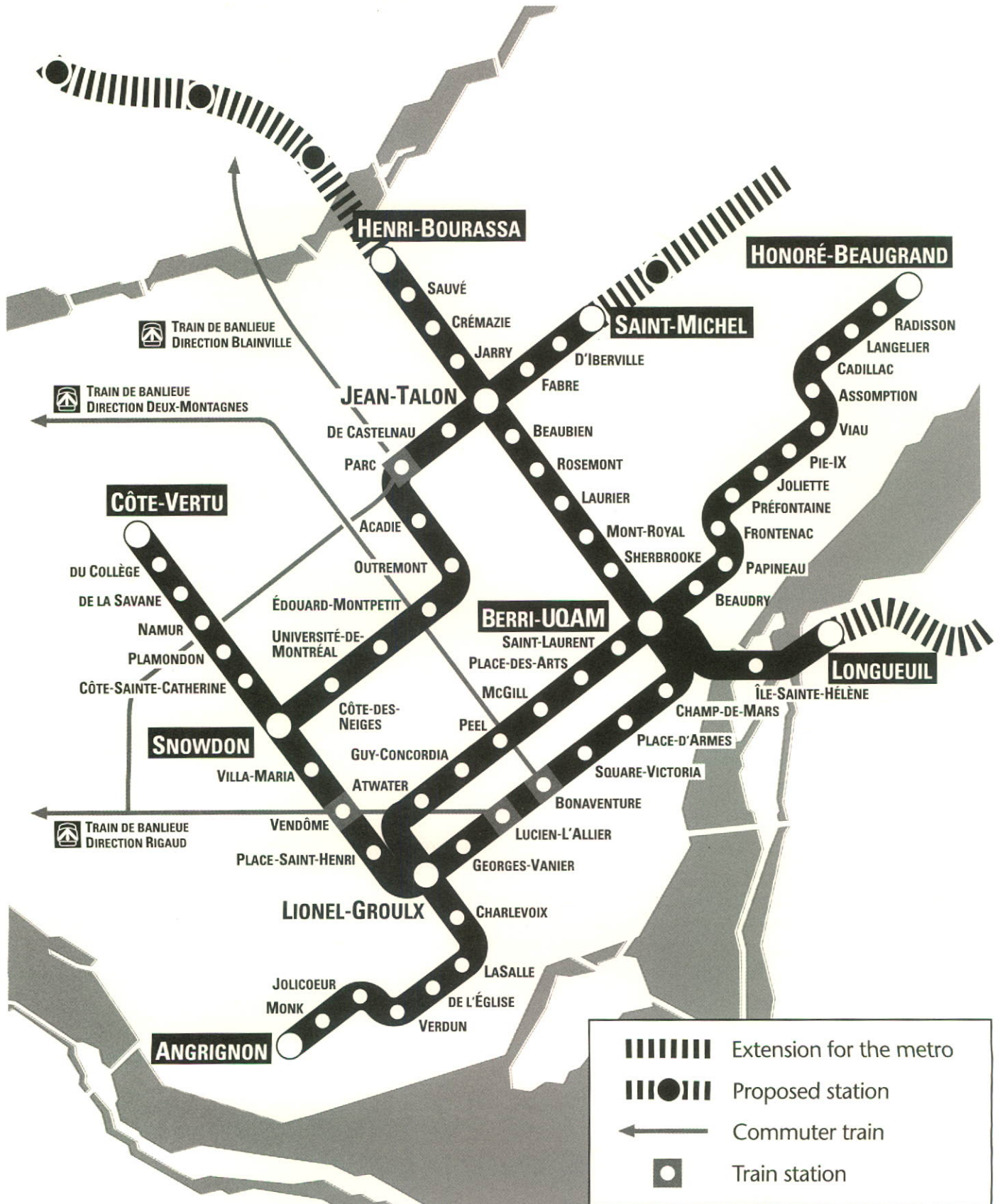
This evaluation is not complete as much as the impact on employment, population movement and local economy have not been considered. These factors would cause a migration of the population and activities toward the outskirts of the MUC.

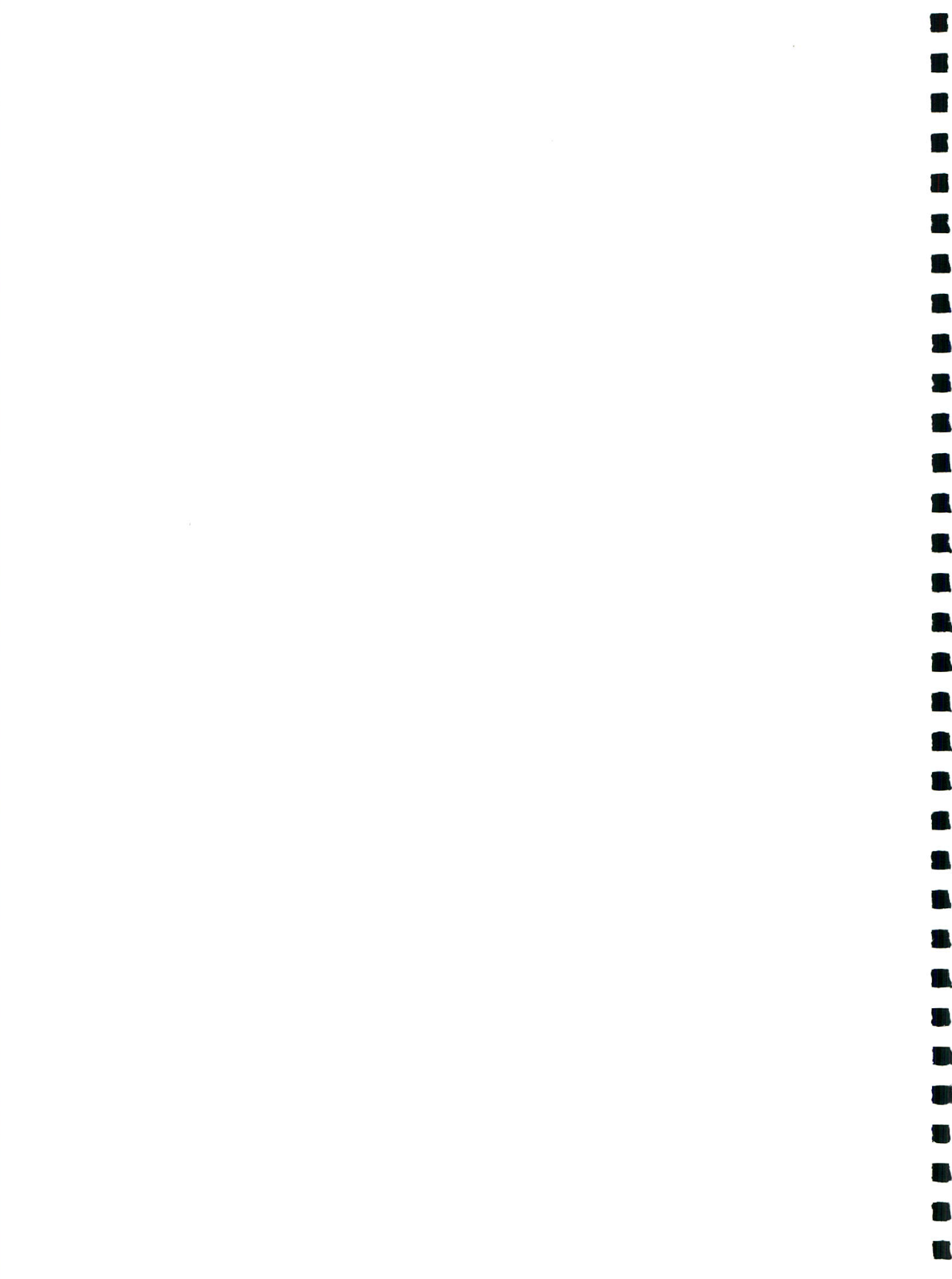
From these figures we can infer that former STCUM customers shifting to car transit would generate annual car-related costs of some \$700 million, which greatly exceed their transit-fare expenses set at around \$250 million.

What is more, if all STCUM customers were to shift to car transit, they would fill in bumper to bumper a highway from Montreal to Gaspé!

1. Source : Financial planning and budget Dept., STCUM, *Études d'impacts socio-économique*, 1996

ANNEXE 1 : Metro network





Mont-Royal

Montréal-Nord

Saint-Léonard

Outremont

Westmount

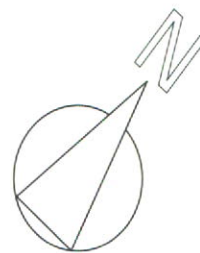
ad

Montréal

Montréal-Est

Anjou

Verdun



ANNEXE 2 : The STCUM territory

