



FINANCING CITY SERVICES: A Prescription for the Future



HARRY KITCHEN

The AIMS Urban Futures Series, Paper #3

September 2004

The Atlantic Institute for Market Studies (AIMS) is an independent, non-partisan, social and economic policy think tank based in Halifax. The Institute was founded by a group of Atlantic Canadians to broaden the debate about the realistic options available to build our economy.

AIMS was incorporated as a non-profit corporation under Part II of the *Canada Corporations Act* and was granted charitable registration by Revenue Canada as of October 3, 1994; it recently received U.S. charitable recognition under 501(c)(3) effective the same date.

The Institute's chief objectives include:

- a) initiating and conducting research identifying current and emerging economic and public policy issues facing Atlantic Canadians and Canadians more generally, including research into the economic and social characteristics and potentials of Atlantic Canada and its four constituent provinces;
- b) investigating and analyzing the full range of options for public and private sector responses to the issues identified and acting as a catalyst for informed debate on those options, with a particular focus on strategies for overcoming Atlantic Canada's economic challenges in terms of regional disparities;
- c) communicating the conclusions of its research to a regional and national audience in a clear, non-partisan way; and
- d) sponsoring or organizing conferences, meetings, seminars, lectures, training programs, and publications, using all media of communication (including, without restriction, the electronic media (for the purpose of achieving these objectives.

Board of Directors

Chair: David McD. Mann; Vice-Chairs: John F. Irving, Peter C. Godsoe, John C. Walker

Chairman Emeritus: Purdy Crawford

Directors: George Bishop, George T.H. Cooper, Brian Lee Crowley, Jim Dinning, Colin Dodds, Frederick E. Hyndman, Bernard Imbeault, Phil Knoll, Colin Latham, Beverly Keating MacIntyre, Martin MacKinnon, G. Peter Marshall, John T. McLennan, Norman Miller, J.W.E. Mingo, Arnold G. Park, Elizabeth Parr-Johnston, Derrick Rowe, Jacquelyn Thayer Scott, Paul D. Sobey

President: Brian Lee Crowley

Advisory Council

John Bragg, Angus A. Bruneau, Don Cayo, Purdy Crawford, Hon. John C. Crosbie, Ivan E.H. Duvar, James Gogan, Denis Losier, Hon. Peter Loughheed, James W. Moir Jr., Peter J.M. Nicholson, James S. Palmer, Gerald Pond, John Risley, Cedric E. Ritchie, Joseph Shannon, Allan C. Shaw

Board of Research Advisors

Chair: Professor Robin F. Neill, University of Prince Edward Island

Professor Charles S. Colgan, Edmund S. Muskie School of Public Service, University of Southern Maine; Professor Jim Feehan, Memorial University of Newfoundland; Professor Doug May, Memorial University of Newfoundland; Professor James D. McNiven, Dalhousie University; Professor Robert A. Mundell, Nobel Laureate in Economics, 1999; Professor David Murrell, University of New Brunswick

2000 Barrington Street, Suite 1006, Halifax, Nova Scotia B3J 3K1

Telephone: (902) 429-1143

Fax: (902) 425-1393

E-mail: aims@aims.ca

Web site: www.aims.ca

FINANCING CITY SERVICES: A Prescription for the Future

HARRY KITCHEN

The AIMS Urban Futures Series
(Paper #3)

Atlantic Institute for Market Studies
Halifax, Nova Scotia

September 2004



© 2004 Atlantic Institute for Market Studies

Published by Atlantic Institute for Market Studies
2000 Barrington Street, Suite 1006
Halifax, Nova Scotia B3J 3K1

Telephone: (902) 429-1143

Fax: (902) 425-1393

E-mail: aims@aims.ca

Web site: www.aims.ca

Acknowledgments

The author wishes to thank two anonymous referees for their helpful comments on an earlier draft of this paper, as well as Charles Cirtwill, of the Atlantic Institute for Market Studies, and Barry A. Norris for their assistance in guiding the paper to its final form.

This work was made possible through the generous support of the Donner Canadian Foundation.

Edited and prepared for publication by Barry A. Norris; design by Gwen North.

The author of this report has worked independently and is solely responsible for the views presented here. The opinions are not necessarily those of the Atlantic Institute for Market Studies, its Directors, or Supporters.

CONTENTS

About the Author	iv
Executive Summary	v
Introduction	1
The Fiscal Status of Cities	3
How Should Cities Finance Their Services?	8
Cities' Initiatives	12
Provincial Initiatives	21
Federal Initiatives	27
Summary and Prescription for the Future	28
Appendix: The Revenue Yield of New Taxes	32
References	34



ABOUT THE AUTHOR

Harry Kitchen is Professor of Economics at Trent University in Peterborough, Ontario. Over the past 15 years, he has completed more than 75 articles, reports, studies, and books on a number of issues relating to local government expenditures, finance, and governance in Canada and abroad. In addition, he has served as a consultant or advisor for a number of municipal and provincial governments, the federal government, foreign governments in Thailand, Russia, and China, and some private sector institutions.

Over this same period, Professor Kitchen has been appointed to a number of commissions or committees, including chair of the Niagara Region Review Commission; chair of the Victoria County Restructuring Commission; chair of the Halton Regional Review Committee; external advisor to the Advisory Committee to the Ontario Minister of Municipal Affairs on Provincial-Municipal Financing Matters; member of the Economic Council of Canada's Advisory Committee on Government and Competitiveness; member of the Urban Finance Advisory Committee of the Canada West Foundation; member of the Advisory Board of the Local Government Studies Program, University of Victoria; member of the Advisory Committee on Service Statistics, Statistics Canada; and member of the editorial board of the *Canadian Tax Journal*.

EXECUTIVE SUMMARY

Increased funding responsibilities for Canadian cities, reduced provincial grants, and a corresponding increase in reliance on own-source revenues over the past 12 to 15 years have changed the fiscal environment in which cities now operate. At the same time, cities have become increasingly important players in the competitive global economy. These events have elevated the importance of carefully redesigning the structure of property taxes, development fees, and user fees to enable cities to deliver services better and to fund them in a fair, efficient, accountable, and transparent manner.

Current property taxes often do not meet the criteria for sound local taxation under the benefits-based model of government finance. Although property taxes are appropriate for cities, especially to fund services that collectively benefit local residents, assessment practices should be improved so that all properties (commercial, industrial, and residential) are assessed in a uniform manner at the same percentage of market value. In addition, variable tax rates should be used to capture servicing-cost differentials across properties, property types, and neighbourhoods within cities, and to eliminate the current property tax discrimination against commercial and industrial (nonresidential) properties.

Development charges are widely used to finance the off-site capital costs of new development — water supply systems, sewage treatment plants, trunk mains, and roads. The general practice is to impose an identical charge on all properties of a particular type, regardless of the location of the property within the city. However, this violates the benefits-based principles of government finance. Some properties and locations are overcharged while others are undercharged, leading to patterns of land use development that are often neither optimal nor efficient. Accordingly, each individual property or neighbourhood should pay a charge that is designed to capture the extra cost of the capital facility required by that property or neighbourhood, and a capacity component should be included that covers the capital cost of constructing the facility, plus a location or distance/density charge that reflects the capital cost of extending the service to particular properties or neighbourhoods.

User fees are generally set to generate revenue rather than to direct resources to their most efficient use. This tendency has led to overinvestment in services and the building of unnecessarily large plants or facilities. With respect to water and sewer services, efficiency could be improved by: using meters; implementing accounting, budgeting, and information retrieval systems that permit the collection of all necessary costing and usage data; calculating and incorporating into prices all opportunity costs of water and sewer provision, including annual asset replacement costs; implementing prices that capture variations in costs according to the time of day or season of the year; and using multipart prices to capture differences in operating and capital costs.



With respect to solid waste collection and disposal, efficiency could be improved by introducing per bag fees for garbage collection; and tipping fees for solid waste disposal that capture all costs, including the opportunity costs of landfill sites.

With respect to public transit and transportation, efficiency could be improved by using higher prices in peak hours, which would reduce peak-hour demand and encourage use during off-peak hours. In addition, cities should be allowed to impose higher taxes on parking lots, add a city vehicle registration fee to the current provincial fee, issue drivers' licence fees with differential rates, have a dedicated municipal fuel tax with rates set locally, and use tolls or congestion charges on major arterial roads.

Provinces should give cities access to new or additional taxes with tax rates set locally and piggy-backed onto the provincial tax base. Cities would then be able to tax both residents and nonresidents (commuters and visitors) for services that both groups consume but for which the latter group does not pay. Moreover, an expanded range of taxes would give cities more flexibility and autonomy and have greater potential to achieve important social and economic policy objectives.

Given the importance of infrastructure for improving Canadians' quality of life and enhancing Canada's ability to be competitive, cities should borrow to finance infrastructure that benefits future generations. They should also have access to new financing instruments, including revenue bonds and the opportunity to create tax incremental financing districts, and they should move to a system of full accrual accounting where all capital assets are amortized over their expected life rather than expensed in the year of purchase. In addition, provincial governments should mandate that cities implement asset management schemes.

Finally, it should be noted that the federal government has no constitutional right to give cities access to new revenue sources and financing instruments, and should not participate with cities in revenue-sharing programs. Ottawa's role should be limited to funding only those services, such as immigration and urban aboriginal programs, for which it is directly responsible, as well as programs, such as social housing, that are of a national interest or where Ottawa should have a national presence.

INTRODUCTION

In financing public services, Canadian cities are hampered by their limited tax base and the availability of remarkably few financing instruments. This has led local politicians, many citizens, and the media to claim that cities face a fiscal crisis and need additional revenue from provincial and federal governments. Is there substance to this claim? Are cities victims of provincial and federal policies, as some complain, or are they simply “begging” for money? Can cities do anything on their own — such as alter their taxation, pricing, and user fee structures — to improve their fiscal situation? Should provincial and federal governments play a more active role in municipal fiscal issues, and if so, what should that role be? Answers to these difficult questions are the focal point of this paper.

In the next section, I lay out a brief statistical presentation of the current fiscal status of Canadian cities — I describe what cities do, how they fund what they do, and how sustainable is their fiscal situation. In the following section, I discuss the actual responsibilities that I believe cities should undertake and how they should fund them within the analytical framework of the benefits-based model of intergovernmental fiscal relations. Using this framework, I then recommend fiscal changes that cities should initiate in their current practices with respect to property taxation and pricing — in other words, development charges and user fees. Finally, I describe some possible provincial initiatives to assist cities in meeting their future fiscal requirements, and I identify a role for the federal government.

The paper ends with a summary and prescription of a number of fiscal changes that could help cities meet their fiscal challenges and future financial obligations.



THE FISCAL STATUS OF CITIES

What Cities Do

Since current expenditure responsibilities drive cities' current and future financing requirements, it is important to lay the groundwork for this study of municipal financing issues by outlining the tasks cities now perform. To that end, Tables 1 and 2 highlight, by province, how the municipal sector spends its money.¹

In Table 1, the main points to note are the following:

- Per capita municipal spending in 2001 ranged from \$379 in Prince Edward Island to \$1,951 in Ontario; the weighted average for Canada was \$1,546. The reasons for such differences among the provinces include different municipal expenditure responsibilities, higher servicing costs in some areas, greater municipal needs in the more highly urbanized provinces, and differences in the quality and, perhaps, the efficiency of services delivered.
- As a percentage of gross domestic provincial product (GDPP), municipal spending for the entire country remained almost the same in 2001 as in 1988, falling slightly from 4.6 percent to 4.5 percent. However, spending increased from 4.6 percent to 5.3 percent of GDPP in Ontario and from 3.8 percent to 4.0 percent in British Columbia.
- As a percentage of total spending by the provincial and municipal levels of government, municipal expenditures increased in relative importance between 1988 and 2001 only in Ontario (from 20.1 percent to 23.5 percent) and New Brunswick (from 10.0 percent to 10.1 percent).

Table 2 shows the relative importance of municipal expenditures by function. The points of interest are as follows:

- Social services are almost entirely a provincial funding responsibility everywhere except in Ontario, where they accounted for 25 percent of municipal spending in 2001 (Nova Scotia, for example, removed social service funding entirely from the local property tax base in 2002).
- Nova Scotia is the only province where municipalities are responsible for funding some public education; elsewhere, this is the responsibility of school boards and/or provinces.
- Except for relatively small expenditures by municipalities on preventative health care programs, such as anti-smoking campaigns, health expenditures are the responsibility of the provinces.

¹ In these tables, the data for cities, towns, villages, townships, counties, regions, and districts are provincial aggregates — not the most desirable form when discussing cities, but it is all we have. Such aggregates are, of course, dominated by large urban centres, where more than 80 percent of Canada's population lives.

Table 1: *Municipal Expenditures by Province, 1988 and 2001*

	Per Capita		As a Percentage of GDPP		As a Percentage of the Provincial-Local Total	
	1988	2001	1988	2001	FY1988/89	FY2001/02
	(\$)	(\$)	(%)	(%)	(%)	(%)
Newfoundland and Labrador	563	767	4.0	2.9	9.2	8.0
Prince Edward Island	252	379	1.8	1.5	4.5	4.3
Nova Scotia	865	1,061	4.5	4.0	15.3	13.1
New Brunswick	551	864	3.3	3.2	10.0	10.1
Quebec	1,002	1,341	4.9	4.3	15.3	13.7
Ontario	1,181	1,951	4.6	5.3	20.1	23.5
Manitoba	871	1,091	4.5	3.6	13.8	11.7
Saskatchewan	814	1,143	4.5	3.5	12.3	12.2
Alberta	1,306	1,579	5.2	3.2	17.9	16.0
British Columbia	830	1,286	3.8	4.0	15.4	14.5
Canada average	1,035	1,546	4.6	4.5	16.7	17.3

FY = fiscal year.

Note: 1988 is the first year for which the data were provided on a uniform and consistent basis; 2001 is the latest year for which data were available at the time of writing.

Source: Author's calculations based on data from Statistics Canada, Financial Management Systems, June 2002.

- Transportation (roads, streets, snow removal, public transit), protection (police, fire), and environmental services (water, sewage, solid waste collection and disposal) account for more than 50 percent of all municipal expenditures in every province except Ontario (where the proportion is lower because of municipal spending on social services).
- The municipal sector spends only between 9 and 22 percent of its money on recreation and cultural services.
- Debt charges for capital projects — municipalities are prohibited from borrowing to cover a budgeted operating deficit — vary considerably, from less than 2 percent in Saskatchewan to more than 11 percent in Newfoundland and Labrador.

How City Services Are Funded

Revenues to fund city services come from provincial (and some federal) government grants, both conditional and unconditional, and from cities' own sources, particularly property taxes and user fees, but also including small amounts from investments and a miscellaneous collection of amusement taxes, licences and permits, and fines and penalties. Since the late 1980s, cities' reliance on property taxes and user fees has grown and their dependence on provincial grants has fallen (Kitchen 2002b, chap 2).



Table 2: Per Capita Level and Distribution of Municipal Government Expenditures by Province, 2001

Municipal Service	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Canada
	(percent)										
General administration	16.2	12.9	10.4	11.1	12.2	8.9	13.7	12.4	12.2	10.0	11.0
Protection ^a	4.7	23.2	20.1	21.0	16.7	13.4	19.7	17.6	14.3	18.8	15.9
Transportation ^b	28.6	21.5	16.9	20.2	27.2	18.2	23.4	31.8	28.3	16.5	19.8
Health ^c	0.1	0.1	0.1	0.4	0.2	3.5	2.2	0.6	1.6	1.8	2.0
Social services	0.2	0.0	4.5	0.0	1.4	24.7	0.3	0.5	1.6	1.8	2.0
Education	0.1	0.0	14.2	0.0	0.1	0.0	0.0	0.0	0.3	0.0	0.4
Resource conservation ^d	0.7	1.7	0.8	2.4	2.8	1.6	2.4	3.6	3.4	1.4	2.0
Environment ^e	22.1	12.7	16.8	25.4	12.0	13.3	17.4	15.4	13.9	20.4	14.0
Recreation/culture	14.5	21.9	10.7	12.7	12.4	8.7	9.4	14.2	13.8	19.6	11.1
Housing	0.6	0.0	0.2	0.3	2.9	5.0	0.4	0.4	0.7	0.6	2.6
Regional planning ^f	1.2	2.3	1.5	2.0	2.5	0.1	2.3	1.7	3.0	2.3	2.2
Debt charges ^g	11.1	3.7	3.7	4.2	9.4	2.3	8.5	1.7	7.1	6.3	5.9
Other	0.0	0.0	0.0	0.2	0.0	0.2	0.4	0.1	0.0	2.2	0.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

^a Includes courts of law, correction and rehabilitation, police, firefighting, and regulatory measures.

^b Includes roads and streets, snow and ice removal, parking, and public transit.

^c Includes hospital and preventive care.

^d Includes agriculture, tourism, trade, and industrial development.

^e Covers water, sewer, solid waste collection and disposal, and recycling.

^f Covers planning, zoning, and community development.

^g Covers interest payments.

Source: Author's calculations based on data from Statistics Canada, Financial Management Systems, June 2002.

Table 3, which summarizes these revenue sources for 2001, again aggregated by province, shows the following points of note:

- Own-source revenues account for as little as 74 percent of municipal revenues in Newfoundland and Labrador and as much as 94 percent in Nova Scotia; the average for Canada is 83 percent.
- Conditional and unconditional grants range from 6 percent of municipal revenues in Nova Scotia to 26 percent in Newfoundland and Labrador.
- Property taxes, the major component of own-source revenues, range between 44 percent of all municipal revenues in Alberta and 74 percent in Nova Scotia; the average for all of Canada is 52 percent.
- Revenues from user fees vary from as little as 16 percent of total municipal revenues in Nova Scotia and Newfoundland and Labrador to as much as 29 percent in British Columbia.

Table 3: Distribution of Municipal Government Revenue by Province, 2001

Revenue Source	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Canada
<i>(percent)</i>											
<i>Own-source revenue</i>											
Property taxes ^a	54.3	62.3	73.7	55.1	64.3	48.3	46.7	54.3	44.4	53.0	52.2
Licences and permits	1.1	0.6	0.1	0.5	0.3	1.3	2.5	4.5	1.6	2.7	1.3
User fees ^b	16.4	26.9	16.4	25.3	16.6	23.9	23.4	24.3	26.1	29.3	23.0
Investment income ^c	1.9	1.6	3.6	1.0	2.0	4.2	8.0	4.4	10.3	8.6	4.9
Other ^d	0.6	1.5	0.2	0.5	2.3	1.7	0.8	1.0	1.6	0.6	1.6
Total own-source revenue	74.3	92.8	94.0	82.4	85.5	79.3	81.5	88.5	84.1	94.2	83.0
<i>Grants</i>											
Unconditional grants	6.3	3.3	2.7	12.4	1.9	2.3	7.9	4.6	0.9	1.1	2.4
Conditional grants	19.4	3.8	3.3	5.2	12.6	18.3	10.6	6.9	15.0	4.8	14.6
Federal	2.9	0.3	0.5	1.0	0.2	0.3	1.2	2.1	0.5	0.5	0.4
Provincial	16.5	3.6	2.8	4.2	12.4	18.0	9.5	4.9	14.6	4.3	14.2
Total grants	25.7	7.2	6.0	17.6	14.5	20.7	18.5	11.5	15.9	5.8	17.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

^a Includes taxes on real property, developers contributions and lot levies, special assessments, grants-in-lieu of taxes, and business property taxes.

^b Includes water and sewage, rentals, concessions, and franchises.

^c Includes profits from own enterprises, interest, and penalties from taxes.

^d Includes fines and penalties.

Source: Author's calculations based on data from Statistics Canada, Financial Management Systems, June 2002.

The Property Tax

The property tax is the only tax instrument available to cities, and one they frequently share with school boards and the provinces. Table 4 shows per capita property taxes by province in 2001 and the percentage of those taxes collected by municipal governments, provincial governments, and school boards. From the table, the following are of note:

- Per capita property tax levels vary widely across Canada, from as little as \$382 in Newfoundland and Labrador (all of which is for municipal purposes) to as much as \$1,398 in Ontario (with \$924 collected for municipal purposes and \$473 for use by school boards - the province determines the rate).
- In every province, the property tax is shared between the municipal sector and the province and/or school boards.
- A province's involvement in property taxation is linked to its direct interest in using that source to fund some of the costs of elementary and secondary schooling. Generally, if local school boards have the power to tax property, provinces refrain from doing so.



Table 4: Per Capita Level and Distribution of Property Tax Revenues among Municipalities, School Boards, and Provinces, 2001

	Property Taxes Per Capita				Distribution of Property Taxes			
	Municipalities	School Boards	Province	Total	Municipalities	School Boards	Province	Total
	(\$)	(\$)	(\$)	(\$)	(%)	(%)	(%)	(%)
Newfoundland and Labrador	382	0	0	382	100.0	0.0	0.0	100.0
Prince Edward Island	273	0	346	618	44.1	0.0	55.9	100.0
Nova Scotia	769	0	0	769	100.0	0.0	0.0	100.0
New Brunswick	463	0	357	820	56.4	0.0	43.6	100.0
Quebec	832	150	47	1,028	80.9	14.5	4.6	100.0
Ontario	924	473	1	1,398	66.1	33.8	0.0	100.0
Manitoba	523	354	176	1,053	49.7	33.6	16.7	100.0
Saskatchewan	577	595	1	1,173	49.2	50.7	0.1	100.0
Alberta	773	59	353	1,185	65.2	5.0	29.8	100.0
British Columbia	603	0	357	960	62.8	0.0	37.2	100.0
Canada average	790	256	110	1,156	68.4	22.1	9.5	100.0

Source: Author's calculations based on data from Statistics Canada, Financial Management Systems, June 2002.

- Currently, only Manitoba and Saskatchewan permit their school boards to tax property in a significant way. In some other provinces, school boards raise small amounts of revenue from property taxes. Elsewhere, elementary and secondary schooling funding is entirely the responsibility of the province.

Criticism of the property tax is decades' old (see Kitchen 1992, 2002b, chap 4–5); recent comments of many politicians and taxpayers echo and extend such criticism. It is common to hear statements such as “property taxes cannot go up” or “we have reached the limit of what we can pay in property taxes”. Unfortunately, no definitive or analytical way exists to evaluate such statements. One also hears that “the property tax has insufficient capacity to meet increased expenditure needs”, yet there is no solid evidence to suggest that the revenue-generating capacity of municipal property taxes is less than that of provincial taxes (Kitchen 2002a, 168–69): property tax rates can be increased, although at the risk of political suicide. Both the high visibility of the property tax² and concern over a possible taxpayers' revolt have contributed to cities' resistance to using it more extensively and aggressively.

2 There is a perception on the part of most taxpayers and politicians that the property tax is highly “regressive” — in other words, that it absorbs a higher percentage of the incomes of lower-income individuals and households than of higher-income individuals and households.

Are Cities Fiscally Sustainable?

Over the past 10 to 15 years, the fiscal environment in which Canada's cities operate has changed (for an overview, see Kitchen 2000). Cities now have greater spending responsibilities, which they must fund by relying more on their own-source revenues and less on provincial transfers (see Kitchen, 2002a, chap 1–2; and Kitchen and Slack 2003, 2217–18). These changes have called into question the fiscal sustainability of Canadian cities. In other words, do they have the fiscal tools or levers they need to fund necessary programs and requirements?

To thrive financially, cities must be able to generate sufficient revenues to meet their expenditure needs, obligations, and commitments. Their ability to do so is affected by three important factors:

- the cyclical sensitivity of their funding responsibilities — the extent to which spending programs vary with the growth or slowdown of economic activity;
- the capacity of the local revenue base and local taxes to keep pace with expenditure responsibilities — whether or not the local tax base is sufficiently “revenue elastic”, as economists say, to permit revenues to rise and fall with expenditure requirements; and
- the ability of cities to control their own destiny — the extent to which they control their expenditure responsibilities and revenue sources to meet changing fiscal circumstances (see Kitchen 2002a).

Until now, cities have met their expenditure responsibilities from current revenue sources. Their ability to do so, however, has come at a time of sustained economic growth, with relatively low unemployment and significant growth in the property tax base. At the same time, and to meet budgetary needs without raising property tax rates or expanding user fees, cities have postponed or delayed important and necessary infrastructure spending. This cannot continue. As cities grow and age, they must expand or replace their capital stock: water plants and sewage treatment facilities need to be enlarged or rehabilitated, transportation and communication facilities updated and extended, solid waste facilities improved or provided if absent, contaminated land cleaned up, and blighted areas revitalized and redeveloped.³

³ The need for increased funding, especially for infrastructure, has been advocated by the Federation of Canadian Municipalities (2001) and by the mayors of Canada's large cities.



HOW SHOULD CITIES FINANCE THEIR SERVICES?

Does the fiscal solution to the future of cities lie in increased transfers from senior governments? Does it lie in revenue-sharing programs with the provincial and federal governments?⁴ Or could cities assist themselves by reforming their current property taxes, development charges, and user fees? Should cities be given access to new tax sources? Just what should be done? While these options have been suggested in the past with varying degrees of enthusiasm, little or no action has resulted. The responsibility for this failure to act may be attributed to both municipal and provincial governments. For whatever reason, cities have been reluctant to change their property tax, development charge, and user fee structures, while provincial governments have been reluctant to give cities additional powers and access to new tax sources.

To set the context for this discussion, let me start by noting the constitutional status of Canadian cities. The federal government has no constitutional jurisdiction over cities. Instead, cities are “creatures of the province”:⁵ their governing structures are created by provincial statutes, and their powers, expenditure responsibilities, and access to revenue sources ultimately are under provincial control. Provincial legislation that defines cities’ responsibilities is embodied in municipal acts and many additional statutes and regulations.⁶

Since cities are creatures of the province and are tightly controlled by provincial legislation and requirements, an appropriate context for matching financing instruments to city services is provided by what is known as the “principal-agent” model (Bird and Chen 1998; Kitchen 2000). In this model, the province is the principal and municipalities are the agents. The principal has the power to change the agents’ jurisdictional boundaries, their revenue sources, and their expenditure responsibilities; it

4 In its May 18, 2004, budget, the Ontario provincial government announced that it would transfer to municipalities revenue equal to 1 cent per litre of the provincial fuel tax, to be spent on transportation and public transit; the transfer is to increase to 2 cents per litre in the future. The federal Liberal Party, in its campaign literature for the June 28, 2004, federal election, announced that, over the next few years, it would remit to municipalities 5 cents per litre from all federal fuel tax revenues.

5 Section 92 of the *Canadian Constitution Act* states that “Municipal Institutions in the Province” are under exclusive jurisdiction of the province.

6 For example, in Ontario, an estimated 150 pieces of provincial legislation govern the operations of city governments. In British Columbia, Manitoba, and New Brunswick, the cities of Vancouver, Winnipeg, and Saint John are each governed by a charter that confers additional powers and responsibilities not given to other municipal governments. Interest in charter cities has grown recently, primarily in response to the difficulties larger cities face in meeting their expenditure commitments from their municipal revenue base. Nowhere is this more apparent than in Toronto, where a group of citizens has been working to have its status changed to that of a charter city.

can also change the fiscal arrangements with its agents in order to reconcile its objectives with theirs. The agents' role is to provide and fund services that benefit local constituents; consequently, in this model, all financing instruments should be addressed on the basis of benefits received.

The Benefits-Based Model of Government Finance

One approach cities should use in financing their services is the “benefits-based” model of government finance. The underlying principle of this model is simple: those who benefit from city services should pay for them (see Duff 2003). The goal of this approach is to achieve economic efficiency, accountability, and fairness.

Economic efficiency is achieved when the user fee, price, or tax per unit of output equals the extra cost of the last unit consumed. This is the principle, well known to economists, of “price equals marginal cost pricing”. Charges applied in this fashion are efficient for funding services where the beneficiaries can be clearly identified and the costs correctly derived. Prices or taxes ration output to those who are willing to pay and act as a signal to suppliers (whether local governments or their delivery agents), which permits them to determine the desired quantity and quality of public output.

Accountability is enhanced when there is a close link between consumption and the price or tax paid per unit of consumption. This also leads to increased transparency as long as citizens/taxpayers have access to information on the way in which local taxes and user fees are set. In turn, increased transparency lowers the risk of corruption by public sector policymakers.

Fairness within the benefits model is achieved because those who consume public services pay for them, just as someone who benefits from purchasing milk or a movie ticket pays for it. Concerns about the tax burden on lower-income individuals should be addressed through income transfers from provincial and federal governments and social assistance programs targeted to individuals in need. It is far more equitable and efficient to handle income distribution issues through income transfers or targeting (Boadway and Kitchen 1999, chap 8–9) than to tamper with charging or taxing mechanisms.

The Benefits-Based Model Applied to Cities

In recent years, as noted above, cities have increased their reliance on property taxes for annual operating purposes, and on development charges and reserves for capital projects and user fees for both operating and capital purposes. One can evaluate this trend more easily once one has determined the role cities should have in funding and providing services.

Briefly, cities should not be responsible for funding programs specifically directed toward the redistribution of income among individuals.⁷ These functions are more appropriately in the federal and

7 Although some elements of income redistribution are inherent in almost all public services, income redistributive services include welfare payments, children's aid, social housing, and income transfers, to name the most obvious.



provincial domain. At the same time, cities should not be viewed as strictly service agencies, specifically charged with funding only those services that clearly benefit specific properties and for which user fees would therefore be appropriate. Cities are much more than this — they provide a range of public services whose collective benefits (fire and police protection, local roads, streets, sidewalks, street lighting, and so on) are enjoyed by both its residents and visitors from other jurisdictions. User fees are not appropriate to fund such services. Instead, they should be funded from taxes on local residents, with necessary adjustments through the use of grants to account for “externalities” — in other words, benefits from these services that spill over into neighbouring communities should be funded from something other than a local tax.

Grants from the province may also play a role. Specifically, conditional grants should be used for partial or full funding of services that generate spillovers and those in which the province has a direct interest. Unconditional grants should be used to ensure that minimum service levels are funded without the imposition of excessively high tax rates on local taxpayers.

Desirable Characteristics of a Local Tax

A good local tax has several desirable characteristics (see Bird 2000):

- the tax base should be relatively immobile so that local governments can vary the tax rate without losing a significant portion of the tax base;
- the tax yield should be adequate to meet local needs, increase over time as expenditures grow, and be relatively stable and predictable;
- the tax should not be one that is easy to export to nonresidents;
- the tax base should be visible to ensure accountability;
- taxpayers should perceive the tax to be reasonably fair; and
- the tax should be relatively easy to administer.

Furthermore, whatever tax or taxes are chosen, local governments should set their own tax rates. International experience tells us that the most responsible and accountable local governments are those that raise their own revenues and set their own tax rates (Bird 2001b; Kitchen 2003c). Unless local governments can alter tax rates, they will not achieve local autonomy or accountability. Moreover, local tax-rate setting provides predictability for municipal governments and gives them the flexibility to change rates in response to different circumstances.

Although the property tax achieves many of the desirable characteristics of a local tax — the base is relatively immobile, it is difficult to export the residential tax to nonresidents, revenues are fairly stable and predictable, and the tax base is visible — it cannot achieve all of them, for a number of reasons. First, property values generally respond more slowly to annual changes in economic activity than do incomes (Bird and Slack 2002). Second, the property tax on commercial and industrial properties may be exported to nonresidents (Kitchen 2003a). And third, the tax yield is often inadequate

to meet the growing expenditure needs of city governments, especially where cities are required to fund a portion of social services and social housing, as in Ontario. Furthermore, the current application of property taxes, development fees, and user fees frequently does not meet efficiency, accountability, and fairness objectives even though cities have the power to make changes to meet these criteria. As well, solid arguments exist for giving cities access to additional taxes and financing instruments, but provincial approval and assistance with implementation would be required. Each of these is discussed below.



CITIES' INITIATIVES

Funding instruments over which municipalities have a certain degree of control involve changing the current structure and application of property taxes, development charges, and user fees. Property taxes are primarily used to fund annual operating expenditures. Development charges are restricted to funding growth-related capital expenditures. User fees fund both operating and capital expenditures for a range of services and assets where specific beneficiaries or users can be identified.

Property Taxes

The base for the property tax is the assessed value of the property to be taxed. In every city, assessed value is some percentage of market value — as high as 100 percent in some cities but frequently a smaller proportion because of time lags and information delays in completing assessment cycles (Kitchen 2002b, chap 4). Although few analysts disagree with the principle that all properties should be assessed in a uniform manner — that is, at the same percentage of market value — actual assessment practices reveal a different pattern. Differences in assessment ratios are widespread and may be grouped in two categories: nonlegislated (unintentional)⁸ and legislated (intentional).⁹

Where assessment ratios differ, the application of a constant property tax rate produces differences in effective tax rates — that is, the ratio of tax liability to assessed value — within and across residential properties within a city.¹⁰ Obviously, the effective rate is higher on properties assessed at a higher percentage of market value. No one defends these differentials as reflecting differences in the costs or benefits of servicing various property types. Rather, they reflect the ease with which governments can impose higher effective tax rates on certain categories of property. For example, owner-occupiers of single detached properties tend to be more vocal in their protests against property taxation than renters, who are less likely to be aware of the property tax liability of their rented quarters, or commercial and industrial property owners, who may feel that they can pass the tax burden on to

8 Unintentional, as when some properties (such as commercial/industrial and multiresidential) are assessed at a higher percentage of market value than are other properties (such as single-family residential).

9 Intentional, through the differential treatment of specific categories of property — for example, farm land and forest lands receive favourable treatment; mines and mineral resources are generally, but not always, exempt from local property taxes; public utilities generally pay a tax based on gross receipts rather than assessed property values; and railway tracks are assessed under special rules.

10 It must be emphasized that this statement refers to properties within a municipality. Comparisons of effective tax rates across municipalities should be treated with considerable caution since some municipalities fund selected services from user fees while others fund these services from property taxes. In such cases, differences in effective tax rates should be noted.

consumers of their products in the form of higher product prices or to employees in the form of lower compensation.

Failure to correlate benefits from city services, as reflected in effective property tax rates, with the extra cost of services consumed (or an approximation of it) leads to a redistribution of income that is not neutral. If the effective tax rate exceeds the extra cost of the service consumed, people and businesses have an incentive to relocate to lower-taxed areas or, alternatively, to accept the lower property values that could arise from a capitalization of property tax differentials into differential property values.

To avoid difficulties of this sort and to set the base for an efficient and fair property tax system, all properties should be assessed at a uniform percentage of market value, with variable tax rates used to capture cost differences across properties, property types, and neighbourhoods within a city. Differences in effective property tax rates (the tax price) within a city can be efficient if they reflect differences in the production, environmental, and social costs of providing city services to different properties or property types. In other words, if some properties or property types are more expensive to service than others, a case exists for variable property tax rates.

Variable tax rates, which have been used in British Columbia for some time and recently have been permitted in Alberta and Ontario, are justified on a number of grounds (see Slack 2002b; Kitchen 2003a). First, they are fair on the basis of benefits received as long as the tax rate varies to capture the cost of municipal services for different property types or locations. Second, variable rates are efficient if they are designed to recover the cost of local public services consumed — a firm would have no incentive to avoid the tax if it matched the cost of services used by the firm. Third, cities could use variable tax rates to distort decisions deliberately to achieve particular land use objectives. If higher tax rates slow development and lower tax rates speed development, a deliberate policy to develop certain neighbourhoods instead of others might be achieved through having different tax rates for different locations. Fourth, variable tax rates can also help to achieve more efficient land use patterns — for example, having higher tax rates on suburban properties than on downtown properties in order to capture the higher costs of servicing suburban properties may result, at the margin, in a higher concentration of activity in the downtown core (Slack 2002a).

Special assessments or benefiting-area charges (area rates) may also be used to achieve the same result, with higher charges applying to properties with higher servicing costs. Halifax, for example, makes extensive use of area rates, with three basic tax rates for urban, suburban, and rural properties plus more than 60 different area rates. If area rates capture differences in servicing costs, they may be as efficient as variable tax rates.

The current practice of imposing higher tax rates on nonresidential (commercial and industrial) properties than on single-unit residential properties can have the effect of misallocating municipal resources, is less accountable than it should be, and is generally unfair in its effect on the nonresidential sector (Kitchen and Slack 1993; KPMG1995; MMK Consulting 2004). Failure to correlate benefits from city services with the extra cost of service provision thus can generate a level of output that is



neither optimal nor allocatively efficient (Bird 1993; Kitchen 2000; McClure 2001). Overspending then leads to higher taxes, making it more difficult for cities to be fiscally sustainable and competitive.

Overtaxation of commercial and industrial property creates a further problem. The amount of tax collected in excess of what is required to cover the cost of city services consumed is effectively an annual fixed cost — it has no relationship to the cost of city services used, and it must be paid regardless of whether the firm incurs a profit or loss. This fixed-cost component can create a number of distortions and allocative inefficiencies that could lead to a lower level of economic activity than would otherwise exist. To elaborate, when a profit-insensitive tax leads to overtaxation of businesses, it can lower economic activity, reduce output, generate fewer jobs, and lead to a less competitive business environment (Canada 1997). This concern should not be treated lightly. It is particularly important for Canada because of the country's heavy reliance on exports and resources and its exposure to world markets.

Concern about distortions caused by the overtaxation of nonresidential property tax has prompted at least one innovative suggestion for reform in Canada (see Bird and Mintz 2000; Bird and Wilson 2003): replace a portion of the revenues from the nonresidential property tax with revenues from a new, provincewide business-value tax (BVT). The BVT would be a value-added tax — essentially, a tax whose base is sales less the cost of goods purchased — and would exist alongside the federal goods and services tax. It would be levied on business income and would fall on production, not consumption. This would make the BVT an origin-based, rather than a destination-based, tax; it would tax exports, not imports. Cities would be able to set local rates that would be piggybacked onto the provincial rate, although the province might impose limits on local surcharges to prevent locational distortions. As a value-added tax, the BVT would eliminate a number of the distortions created by the current overtaxation of nonresidential property. Although such a tax would be new to Canada, a comparable local business tax is used in Germany and Japan.

Development Charges

Development charges are fixed at a specific dollar value per lot (or per hectare or acre) and imposed on the developer to finance the off-site capital costs¹¹ of new development. The charges are applied to the capital costs of capital facilities needed for new development, but under certain circumstances they may also apply to additional capital costs required to service redevelopment. Historically, charges have been levied to finance the so-called hard services, such as water systems, sewage treatment plants, trunk mains, and roads.

Under the benefits-based principle, a development charge is fairest when it is easy to identify the beneficiaries of services that physical infrastructure provides — that is, when one can determine the cost of the eligible infrastructure for each property and when all benefits from the infrastructure are

¹¹ On-site services such as local roads, sidewalks, street lighting, sewers, and water are the responsibility of the developer in most cities and are included in subdivision approval plans.

confined to that property. Water mains, sewers, and local streets are examples of capital expenditures whose beneficiaries are fairly easy to identify (Slack and Bird 1991; Slack 1994; Tomalty and Skaburskis 1997; and Kitchen 2002b, 196–200).

An efficient development charge must include all capital costs. To allocate resources efficiently, a charge on an individual property or neighbourhood should be designed to capture the extra cost of the capital facility needed to service that property or neighbourhood. This should consist of a capacity component to cover the capital cost of constructing the facility, plus a location or distance/ density charge to recover the capital cost of extending the service to particular properties or neighbourhoods (Downing and McCaleb 1987, 51–52).

The general practice in municipalities that use development charges, however, is to impose an identical charge on all properties of a particular type (single-family residential, for example) regardless of where the property is located within the community or neighbourhood. Such a practice is administratively simple, but it creates problems on efficiency grounds. Residential dwellings in low-density neighbourhoods are levied the same charge as those in high-density neighbourhoods, yet the marginal cost per property of infrastructure projects in low-density areas is clearly higher than that of identical projects in high-density areas — more pipe, more asphalt, more cement, and so on, is necessary to service the same property in a low-density neighbourhood. This may lead to the overdevelopment of low-density housing (urban sprawl) and the underdevelopment of high-density housing relative to what is economically efficient (Slack 2002a).

An efficient development charge, on the other hand, allocates the cost of infrastructure to the new properties that will actually benefit from it. Although it may be impractical to expect city officials to calculate the infrastructure cost for each new property site, there is no reason this cost could not be calculated for a wider area such as a development or neighbourhood. In this way, development charges in each area could more closely approximate the true cost of providing infrastructure for that area and provide a disincentive to create sprawl.

User Fees

When should user fees be imposed? The short answer is that they should be used for operating and capital expenditures whenever possible. User fees are ideal for funding local services where specific beneficiaries can be identified and nonpayers excluded. They may not be appropriate, however, for funding services, such as local streets, that have “public goods” characteristics — that is, where it is difficult or very costly to exclude someone from using the service and where the additional resource cost of another person’s using the good is zero (Rosen et al. 2003, chap 4). User fees are also inappropriate to fully fund services, such as social housing, that are primarily income redistributive in nature.

Opposition to user fees often arises because they are alleged to be regressive. But so are the prices of milk and movie tickets. Sometimes, critics of user fees complain that cost data are not collected and recorded in a way that permits marginal costs to be estimated — supposedly a problem with



fixed costs or where costs are shared with other services, such as in assigning general government expenses to individual services. In addition, there is often political and, sometimes, administrative reluctance to alter user fee structures that have been around for a long time.

Although economists' analytical tools provide no guidance on overcoming political resistance to user fees, they do permit the design of efficient user fees under a variety of circumstances: when economies of scale are present, when capacity constraints exist, when demand differs in peak and nonpeak periods, when second-best considerations are prevalent, and when externalities exist (see Bird 2001a; Bird and Tsiopoulos 1997; Kitchen 1997, 2002b, chap 6; and Dewees 2002).

The most frequently discussed services for which user fees could and should be applied cover water supply and sewage treatment, solid waste collection and disposal, and public transit and transportation; accordingly, I discuss these services in some detail below. Looking ahead, however, the reader will note the importance of setting prices or user fees correctly if policymakers are to achieve efficiency in service usage and, subsequently, an optimal or desirable level of physical infrastructure. If prices do not cover all costs, and in an efficient manner, the result can be overbuilding or oversupplying, which is wasteful and expensive. Underbuilding or undersupplying, on the other hand, means that people are not getting the level of services they desire.

User Fees for Water Supply and Sewage Treatment

User fees for water tend to be characterized by four structures (see GeoEconomics et al. 2002, 2). One is a fixed charge that does not vary with consumption but may vary by type of customer (residential, commercial) and property (number and type of rooms, size of lot, number of water using fixtures, and so on). The other three fee structures are volume-based charges: a constant unit rate, a declining block rate, and an increasing block rate.

A constant unit rate is an identical charge per unit of consumption (cubic metre, for example) and does not differentiate among types of customers.

A declining block rate generally includes a basic or fixed service charge per period combined with a volumetric charge that decreases in blocks (discrete steps) as the volume consumed increases. Typically, one or two initial blocks cover residential and light commercial water use, with subsequent blocks levied on heavy commercial and industrial uses. The fixed component of the charge often varies with the size of the service connection. Minimum charges corresponding to a minimum amount of water consumption in each billing period are a common feature of declining block rates. Such rates are generally not preferred by conservationists because they do not capture the social costs associated with water consumption.

An increasing block rate, which few municipalities use but which conservationists prefer, is similar to a decreasing block rate except that the volumetric charge increases in steps as consumption increases, and there is no minimum charge.

Sewage collection and treatment expenses are almost always recovered through surcharges on water bills. For residential and most commercial and industrial customers, these surcharges are not based on sewage flow but are typically flat-rate charges, which even some municipalities with metered water rates use. In other municipalities, the sewage charge is a percentage of the water bill.

Although the efficiency advantages of marginal cost pricing are well documented, cities seldom use it. Instead, average cost pricing is the norm. Yet a price that is less than marginal cost encourages overconsumption and wastes resources. Fortunately, over the past few years, efforts to reduce water consumption in response to dry spells or the exhaustion of low-cost sources of supply have led to the emergence of water-pricing initiatives that emphasize economic incentives (Cuthbert and Lemoine 1996; Chesnutt et al. 1996). These economic incentives frequently include conservation-oriented rate structures that target high-volume users. In terms of marginal cost pricing, conservation pricing is justified if the opportunity cost of not conserving water is high.

All user fee initiatives for water and sewage emphasize the importance of water meters. Most schemes promote the implementation of accounting, budgeting, and information-retrieval systems and the adoption of innovative pricing practices (Brandes and Maas 2004). All argue for the inclusion of annual asset replacement costs in annual operating costs (Moore 2004). Most support time-of-use prices to capture variations in costs according to the time of day or season of the year. And many call for multipart tariffs to improve consumption efficiency while recovering the fixed costs of production.

One simulation study, of the Greater Vancouver Water District, substitutes efficient prices for current prices to produce an interesting result (Renzetti 1992). In particular, the study suggests that reforming water prices to accommodate the price-equals-marginal-cost-pricing principle would lead to welfare gains of approximately 4 percent. A more recent study (Renzetti 1999) concludes that the marginal cost of water supply exceeded the price for water in every one of 77 water utilities looked at in Ontario.¹² Similar studies in other countries indicate that water and sewer rates are often significantly lower than marginal production costs (see Easter et al. 1993).

Underpricing water and sewage leads to a higher level of consumption than is allocatively efficient, primarily because there is then no incentive to use the service in an efficient manner. It also brings about investments in water and sewage treatment facilities that are larger than would have occurred under a more efficient pricing policy (Renzetti 1999). A recent empirical study on pricing of sewage by Norwegian local governments (Borge and Rattso 2003) shows that sound user-charge financing of sewer services significantly reduces the cost of providing such services. Another study shows that underpricing and distortions of water and sewer pricing are responsible for severe locational distortions

12 For example, the average price to residential customers was \$0.32 per cubic metre while the estimated marginal cost was \$0.87 per cubic metre. By comparison, the average price for the nonresidential sector was \$0.734 per cubic metre while estimated marginal cost was \$1.492 per cubic metre. At the same time, the average marginal cost of sewage treatment was \$0.521 per cubic metre while the average price was \$0.128 per cubic metre.



in Chile (Daniere and Gomez-Ibanez 2002). Moreover, there is evidence that underpricing discourages innovation in developing alternative water and sewage treatment technologies (Gardner 1997).

Studies such as those cited above typically use the utilities' own cost-accounting procedures as the basis for their estimates while excluding other costs, such as the value of raw water withdrawn from the natural environment, the opportunity costs of land holdings and of invested capital, and the harm caused by pollution. When such costs are included, however, the gap between the price and the full marginal cost of supply is larger than previously thought. In fact, a recent study for one Canadian municipality that includes the costs of a competitive rate of return on assets, pollution externalities, and the value of raw water estimates that the wholesale price for water would have to increase by at least 15 percent and possibly by as much as 45 percent to recover all social costs (Renzetti and Kushner 2001).

Solid Waste Collection and Disposal

When it comes to the collection and disposal of solid waste, the funding choice generally is between local tax revenues and user fees, with the latter — in the form of a specific charge per bag or container — preferred on efficiency grounds. As with water, users can be identified and per unit costs calculated. A charge that includes the full marginal social costs of collection and disposal (McRae 1994) is critical in order to provide an incentive for discouraging waste and overuse (Ontario 1993, 583–94).

Unlike the case of water, however, user fees for solid waste collection and disposal may have what economists call “negative spillover consequences”. For instance, individuals may avoid the fee or charge by throwing their refuse onto neighbouring properties or disposing of it in rural areas. The higher is the price, the greater is the incentive for generating unwanted spillovers. Fortunately, most municipalities that apply user fees to garbage collection appear to have this problem under control (Deweese 2002, 591). The practice of imposing a user fee of any sort should be applauded, however, because it leads to a greater concern about the generation of garbage and improves the efficient use of local public resources.

For solid waste disposal, the tipping fee should also be set with efficiency objectives in mind. If a municipality pays for disposal by a third party, the cost is clear: the cost per tonne of the contract. If the municipality operates the landfill site, the cost of placing a cubic metre of waste in it is not just the current operating cost of the landfill, but also all amortized capital costs — including closure and post-closure costs, the opportunity cost of that space, and the value of environmental harm.

Unfortunately, government-operated landfills tend not to charge tipping fees that reflect the future scarcity of landfill sites. Worse yet, many cities in Canada charge private haulers only per tonne fees. The tipping fees for garbage that city operators bring in is almost always paid for by local taxes, not by tonnage charges. The efficient size of the disposal site will be determined, however, only if all waste is charged a uniform per tonne tipping fee. Further inefficiencies exist because tipping fees rarely include the expected value of environmental harm, except where financial liability for such

harm has been anticipated and built into the cost of operation. Environmental harm includes the annoyance to neighbours of the landfill from smells, birds, blowing refuse, and truck traffic. It may also include contamination of the groundwater if leachate escapes from the landfill during its operation or even decades after it is closed. All of these costs should be included in the tipping fee to get an efficient size of operation.

Several studies have examined the effects of user-pay systems in municipalities in Canada and the United States. Most such studies compare free (local tax-supported) garbage pickup with a per bag fee — averaging about \$1.00 but ranging from \$0.68 to \$2.00. Most measure the reduction in tonnage of regular garbage, and many measure the increase in the collection of recyclables.

A study of 21 cities in the United States with a population of less than 50,000 reports average reductions in waste volumes of 34 to 43 percent (Miranda et al. 1994). A subsequent study of five communities in the US Midwest and four cities in California finds that a per bag fee was somewhat more effective in reducing waste than were monthly subscription fees for garbage carts (Miranda and Aldy 1996). In other examples, Seattle diverted 24 percent of its solid waste and lowered its total waste management costs after imposing a user-pay system (Skumatz and Breckinridge 1990, 3, 9). In Austin, Texas, a fee per can based on can size reduced solid waste disposal by 23 percent; it also increased recycling in general, and yard waste separation in particular (Word, Higginbotham, and Pluenneke 1992, 52–53). And in the Greater Toronto Area, it is estimated that a \$1.00 per bag fee for solid waste collection would divert an additional 4 to 14 percent of materials from solid waste generation (Ontario 1994).

In general, all these studies report reductions in solid waste tonnage because consumers increased recycling, generated less waste, and increased the use of other options such as composting. Prices work!

Public Transit and Transportation

Municipal public transit systems are funded mainly by fare box revenue, municipal taxes, and grants from senior governments. In addition, some systems generate additional funds from charter and rental services, advertising, and miscellaneous income.

Concern about operating deficits often leads to discussions of the fares that transit users should pay. In setting fares, city officials consider a number of social, economic, and political factors. These include the availability of and access to alternative forms of transportation, the ability of local residents to pay for transit services, the attitudes of local politicians toward acceptable levels of fares, and the portion of operating costs to be recovered from fare box revenue, and so on (see Kitchen 1990). The tendency in many communities is to set different fares for adults, children, students, and seniors and to offer discounts for monthly passes. Where variation exists, the highest fare is for adults. Furthermore, in some cities, lower fares are available for special groups — the blind, the disabled, and the unemployed.



Asking public transit users to pay a price equal to the full marginal social cost would be efficient and fair only if private transit users — usually drivers of automobiles — paid a charge that also reflected their full marginal social cost. Since the latter do not, marginal cost pricing for public transit is not efficient. The second-best solution is to pursue efficiency by subsidizing local public transit; the issue then becomes that of establishing the correct subsidy.

Furthermore, the current fare structure can create economic problems through what it does and does not do. Failure to charge higher prices in peak hours creates an incentive to overinvest in public transit infrastructure and to provide greater capacity than can be justified on efficiency grounds. On the other hand, higher peak-load fares may discourage public transit use and increase the use of private autos. To reduce auto use, a more effective and direct policy on the part of provincial governments might include the following:

- Permit municipalities to tax parking lots.
- Permit municipalities to impose their own vehicle registration fees on car owners. Vehicle fees could be based on features such as age and engine size (older and larger vehicles generally contribute more to pollution), location of the vehicle (cars in cities add more to pollution and congestion), and axle weight (heavier vehicles do substantially more damage to roads and require more costly roads to be built).
- Permit municipalities to issue drivers' licences and to charge fees that vary according to driving records — 20 percent of drivers are responsible for 80 percent of the accidents (Bird 2003).
- Permit cities and metropolitan areas to have access to a municipal fuel tax, with revenues used to fund public transit and transportation systems.
- Permit cities and metropolitan areas to implement congestion charges (tolls), as London does, with charges varying by time of day and perhaps by season if there are seasonal differences in the cost of highway usage.¹³

The availability of discounts complicates problems generated by the lack of peak-load charges. These discounts are used primarily by rush-hour travellers, effectively lowering the per trip charge at a time when higher fares could make more economic sense. As well, lower fares for senior citizens, children, and students are difficult to justify, especially at peak hours when transit systems are overused. And any subsidies that are supplied on the basis of age and are completely unrelated to income are difficult to support on efficiency grounds.

The same criticisms can be directed at the failure to use zone charges within large metropolitan areas, since the marginal cost of carrying a rider varies with distance travelled. Fixed fares mean that short-distance travellers overpay while long-distance travellers underpay.

13 As an aside, it is interesting to note that Singapore proposes to increase the progressivity of its local revenue system by imposing higher levies and charges for a number of government services, including road pricing through electronic monitors that charge for the use of public roads (Bird and Slack 2004, 29).

PROVINCIAL INITIATIVES

Provincial governments could initiate a number of changes to improve the fiscal viability and sustainability of cities (see Kitchen 2003d). For example, they could transfer funding responsibilities for certain services away from cities and back to the province — if Ontario were to shift funding responsibilities for all social services, social housing, and land ambulance expenditures to the province, as is the practice elsewhere in Canada, it would assist local governments and make sound economic sense. Income distributional services, in particular, should be the responsibility of the federal and provincial governments (Boadway and Kitchen 1999).

As well, the provinces should give cities and large urban areas, if not smaller municipalities, access to new tax sources. This access should not be in the form of revenue sharing; rather, cities should be responsible for setting their own tax rates while piggybacking onto the provincial tax base. The provinces should also give cities access to new financing instruments for capital infrastructure.

The provinces should not increase their grants to cities, however, unless the grants are designed to fund specific programs whose beneficiaries spill over beyond the local community or whose objective is to fund a service the province desires. Even here, grants should not be given for infrastructure projects and other services unless proper accounting procedures (including full-cost accounting) and asset management programs are in place, as I discuss later in the paper.

New Taxes

It is not only impractical and unreasonable to expect cities to fund their increased spending responsibilities and requirements from a single tax, it is almost certain to be economically inefficient and unfair. The time has come for provincial governments to give cities access to additional tax sources (see Kitchen 2002a; Kitchen and Slack 2003; and Ontario 2004). The question, then, is: which taxes? Options include the personal income tax and/or consumption-based taxes such as a general sales tax, a fuel tax, and a hotel and motel occupancy tax. These options should be viewed as supplementary to the property tax, not as substitutes for it. (The appendix to this paper provides an estimate of the potential revenue yield from each tax.)

The Rationale for New Taxes

Access to a mix of taxes would allow cities to levy taxes that achieve the full range of desirable characteristics. Moreover, a mix of taxes would also give cities more flexibility to respond to local conditions such as changes in the economy, evolving demographics and expenditure needs, and changes in the political climate.



Sales and income (payroll) taxes, for example, are more effective than the property tax at linking the costs and benefits of services when people live in one jurisdiction and commute to another. Recent US evidence suggests that the cost of inner-city services used by people who live in the suburbs exceeds, sometimes substantially, what they pay for those services (Chernick 2002; Chernick and Tkacheva 2002). There is every reason to believe that a similar situation exists in Canada. Local income and consumption-based taxes could help to alleviate this disparity.

Income and consumption-based taxes, unlike property taxes, would also allow cities to benefit from the prosperity created by economic booms.

Furthermore, a single tax like the property tax is almost certain to create local distortions, some of which could be offset by other taxes. For example, the property tax discourages investment in housing. The income tax, on the other hand, encourages investment in owner-occupied housing because the imputed income of such housing is not taxed. By relying on a number of different tax sources, cities could counteract distortions in one tax by the distortions in other taxes.

Finally, if Canadian cities were permitted direct access to one or more of these taxes, the revenue yield would not be insignificant. As well, and to achieve administrative simplicity, any new tax should be piggybacked onto the provincial tax with the tax rate set locally — that is, city politicians must be responsible for setting local tax rates if accountability, efficiency, and transparency are to be achieved.

A City Income Tax

Canadian advocates of a city income tax generally argue for a form of revenue sharing rather than a tax for which cities set their own rate. Revenue sharing currently exists in Manitoba, where municipalities receive an annual per capita unconditional grant from the province, the size of which is based on the amount of revenue generated from 2.2 percentage points of the provincial personal income tax and 1 percentage point of the provincial corporate income tax. This is not a local income tax in the true sense — local officials have no say over the tax rate or base.

A city income tax does, however, have a couple of drawbacks that may make it less desirable than a consumption-based tax. First, the federal and some provincial governments have recently lowered personal and corporate income tax rates to permit Canadians to remain competitive (or become more competitive) internationally. Accordingly, if cities were permitted direct access to income taxation, higher tax rates could offset, if only partially, such tax initiatives and make it more difficult for Canadians to compete. Second, the current practice in many developed countries, supported by the economic literature, is to lower reliance on income taxation and increase reliance on consumption-based taxes. This, it is argued, creates fewer distortions and reduces the deadweight costs associated with taxation (Boadway and Kitchen 1999).

Consumption-Based Taxes

As noted above, three consumption-based taxes are potential candidates for municipal use. One possibility is a general city sales tax. Although Canada does not yet permit such a tax, it would be preferable, in the current context of lowering personal and corporate income tax rates, to a city income tax.

Another consumption-based tax that receives frequent mention is a city fuel tax. Many US cities levy fuel taxes (Brunori 2003), but such taxes do not exist in Canada. There are, however, a few revenue-sharing schemes. For example, British Columbia remits 11 cents per litre of its fuel tax revenue to the Greater Vancouver Transit Authority and 2.5 cents per litre to the Capital Region around Victoria. In both cases, the revenue is used for public transit operating and capital expenses. Calgary and Edmonton receive provincial grants for transportation infrastructure that are estimated to equal 5 cents per litre from all provincial fuel tax revenue collected in the two cities. In Quebec, the Agence Métropolitaine de Transport, which provides transit services to Montreal and surrounding municipalities, receives 1.5 cents per litre of all provincial fuel taxes collected in this area.

A city hotel and motel occupancy tax is another possibility. Currently, provincial and federal sales taxes are applied to hotel and motel accommodation. In Manitoba and British Columbia, however, municipalities also have the option of levying hotel and motel occupancy taxes. Where occupancy or room taxes are used, they are piggybacked onto the provincial tax and the revenue is collected by the province and returned to the municipality.

Capital Financing

Growing concern over the state of city infrastructure and its importance in fostering a competitive environment for Canadian business has highlighted much of the recent discussion around the financing of capital assets. Much city infrastructure must now be repaired, rehabilitated, or replaced, and the issue has become one of how to finance this task. Should cities do it with their existing tools or should provinces give cities some new tools?

Borrowing

Cities engage in short-term borrowing to finance capital expenditures or an unexpected deficit in their operating budget.¹⁴ Their use of long-term borrowing, on the other hand, is restricted to financing capital expenditures. For infrastructure projects whose benefits accrue to future residents, fairness, efficiency, accountability, and transparency are enhanced if payment of annual interest charges and repayment of the borrowed funds come from property tax revenues (for capital assets that benefit

¹⁴ Municipalities cannot budget for an operating deficit. If one arises, however, they may borrow to cover this shortfall, which in turn must be recovered in the next year's budget.



the city in general but for which specific beneficiaries cannot be identified) and user fees (for capital assets that benefit specific users). Examples of capital expenditures for which borrowing is appropriate include fire and police infrastructure, recreational facilities, roads and streets, public transit, and water and sewer services. Growth-related capital infrastructure, on the other hand, should be financed from development charges.

Although the data suggest that municipal borrowing has declined over the past decade or so and that cities, in general, have room to borrow (Kitchen 2002c, 2003b; Ontario 2004), borrowing instruments and opportunities are severely restricted by provincial legislation and regulations. At the moment, cities may borrow by issuing general bonds (often called debentures), either directly to buyers or through a provincial agency responsible for marketing municipal bonds. Other options, however, could be made available, including revenue bonds and tax incremental financing districts.

Revenue bonds, as used in the United States (Brunori 2003), apply to specific types of infrastructure that generate a revenue stream and whose beneficiaries can be identified (such as water or recreational users). Within the benefits-based model for financing local capital infrastructure, revenue bonds are fair, efficient, and accountable as long as those who benefit from the service provided by the facility pay for it. If such bonds were permitted in Canada, they would enhance the range of capital-financing instruments available to cities.

Growing concerns over the cost of cleaning up and redeveloping contaminated sites, the expense of revitalizing blighted city centres, and the need to rehabilitate deteriorating municipal infrastructure have sparked interest in tax incremental financing districts (TIFDs). Some US cities have such districts (Brunori 2003) but they are not permitted in Canada. TIFDs are intended to stimulate private sector investment in urban areas that need revitalization in order to make them more competitive with suburban and exurban areas (Onyschuk, Kovacevic, and Nikolakakos 2001, 26–27).

Although specific TIFDs may vary in structure, they all have the same basic approach. For a period long enough to recover all costs of public funds used to redevelop the property, tax incremental financing divides property tax revenue from the area into two categories. First, property taxes based on the predeveloped assessed value of the property are retained by the city for general use. Second, property taxes from the increased assessed values arising from redevelopment are deposited in a special increment fund, with the revenues used to repay bonds that have been issued to finance public improvements in the redeveloped area. In other words, increases in property tax revenue from the redevelopment of an area are dedicated to financing public improvements in that area.

Typically, tax incremental finance-backed bonds are sold to provide up-front financing for the purchase and reclamation of land and the installation of public infrastructure such as streets, streetlights, water and sewer lines, curbs, gutters, and landscaping (Slack 2002a). If used to stimulate downtown development or the clean-up of contaminated land, TIFDs could discourage urban sprawl and thus become an important instrument in encouraging so-called Smart Growth (Onyschuk, Kovacevic, and Nikolakakos 2001, 26–27).

An Accounting Framework for Infrastructure

The importance of setting prices and taxes to recover all operating and capital costs has already been noted. In practice, however, asset replacement costs (the value of the asset used up in a particular accounting period, generally a year) are often excluded. This omission may be attributed to a number of things, but the major reason is that, historically, most infrastructure, especially at the local level, was funded by provincial grants (with very little from the federal government). Recipients treated these grants as a “free good” and felt no compulsion to recover any of it through annual asset replacement charges. This practice is not peculiar to Canada — few countries include asset replacement or depreciation expenses in their computation of operating costs (Mann 1995, 5) — and it has led to at least two serious consequences. First, failure to record a major cost means that user fees, prices, or taxes are lower than they should be, thus leading to overinvestment and more capacity than is otherwise justified. Second, as the infrastructure deteriorates, no own-source revenues have been set aside for its replacement.

Recent reductions in provincial grants for capital projects have highlighted this deficiency and pointed out the importance of using proper accounting practices. Fund accounting is especially appropriate for this task because it features self-balancing, double-entry accounts from which a balance sheet and statement of operations can be prepared. Fund accounting recognizes that most physical infrastructure is not fungible — that is, it is not available for purposes other than that for which it was budgeted — and that data on budgeting compliance are an important part of a city’s responsibilities with respect to accountability and transparency.

Within the fund-accounting framework, the accrual approach is preferred for large capital projects and infrastructure investment (Geeconomics et al. 2001, appendix 6.1). Accrual accounting records transactions when they occur regardless of when expenditures are made or funds received. For example, the cash expenditure to finance an investment in a fixed asset may take place in one year, but the associated expenses reported in the financial statement of operations take the form of annual depreciation charges incurred over the life of the asset. Depreciation is a charge that is used to recover the original cost of an asset. It associates the annual flow of benefits with annual costs by spreading the cost of the capital project over its life.

Interest in full-accrual-based accounting has generally been motivated by concerns about the state of aging infrastructure and the lack of reliable information for evaluating this concern. In fact, this was a major reason the federal government recently implemented a full-accrual-accounting system that requires the depreciation of a capital asset over the life of the asset. Unfortunately, even though such a system would make considerable economic sense, provinces and cities have yet to adopt it (Bird and Wilson 2003, 24).

Asset management often goes hand in hand with accrual accounting, and is concerned with the inventory, condition, performance, and valuation of assets, with investment appraisal, and with delivery and monitoring. Good asset management schemes are, however, lacking in many Canadian cities.



The recent increase in “pay-as-you-go” financing for local physical infrastructure as a result of increased reliance on development charges tends to inhibit and even prevent optimal asset management schemes, especially where cities postpone investment decisions until they can afford the project rather than undertaking the investment when it is required. In New Zealand and Australia, asset management schemes at the municipal level are mandatory; they should be mandatory in Canada as well.

FEDERAL INITIATIVES

Since cities and other municipal governments are creatures of the provinces, the federal government has no constitutional role to play with respect to them. Does Ottawa have a role, however, in financing cities?

In the benefits-based model of intergovernmental finance, the federal government should fund its own responsibilities, either directly or by transferring money to cities for this purpose. There are two examples where this is most obvious (see Slack and Bird 2004, 28–29). First, since many large cities face increasing fiscal pressures because of immigration and urban aboriginal programs, federal assistance to cover these costs would be appropriate and could alleviate some local fiscal needs. Second, the federal government should fund a portion of social housing costs (which are predominantly a municipal responsibility) — particularly for specific population groups such as immigrants, refugees, and aboriginals.

What the federal government should not do, however, is exactly what it has promised to do: give 5 cents of federal fuel tax revenues to municipalities for public transit and transportation projects beginning in 2005. Although the details have not been worked out, such a scheme would basically be an unconditional grant. Furthermore, it has all the characteristics of a program that lacks accountability and transparency, and would not fit into a sound local finance structure. Instead, as I argued above, cities should fund their own service responsibilities by raising their own-source revenues and setting their own tax rates.

SUMMARY AND PRESCRIPTION FOR THE FUTURE

Over the past 12 to 15 years, the combination of increased funding responsibilities for Canadian cities, reduced provincial grants, and a corresponding increase in reliance on own-source revenues has changed the fiscal environment in which cities operate. At the same time, cities have become increasingly important players in the competitive global economy. These trends have elevated the importance of carefully redesigning the structure of property taxes, development fees, and user fees to enable cities to establish more optimal levels of service provision and to fund these services in a fair, efficient, accountable, and transparent manner.

To meet ongoing expenditure commitments, there are solid economic and, some might say, political arguments for giving cities access to one or more consumption-based taxes that would be piggy-backed onto existing provincial taxes, with rates set locally. Also, changes should be made in the way in which cities finance and manage their capital infrastructure. Moreover, the federal government should rethink its role in providing financial assistance to cities. In this final section of the paper, I summarize the changes that should be made in each of these areas.

Property Taxes

In general, the way in which property taxes are set does not meet the criteria for sound local taxation under the benefits-based model of government finance. What is at issue, it must be emphasized, is current practice, not the theoretical or conceptual appropriateness of the property tax as a revenue source for cities — such a tax is indeed appropriate, especially if it is used to fund services that collectively benefit local residents. All the same, the structure and application of property taxes could be improved in the following ways:

- All properties, whether commercial, industrial, or residential, should be assessed in a uniform manner — at the same percentage of market value.
- Variable tax rates should be used to capture servicing-cost differentials across properties, property types, and neighbourhoods, and to eliminate the current property tax discrimination against commercial and industrial properties.

Development Charges

Development charges are widely used to finance the off-site capital costs of new development — water supply systems, sewage treatment plants, trunk mains, and roads. The general practice is to

impose an identical charge on all properties of a particular type (single residential, for example) regardless of the location of the property. This practice violates benefits-based principles of government finance, however, by overcharging some properties and locations while undercharging others, leading to patterns of land use development that often are neither optimal nor efficient. Development charges should thus be designed as follows:

- Each individual property or neighbourhood should pay a charge that captures the extra cost of the capital facility required by that property or neighbourhood. While it may be impractical to expect city officials to calculate the infrastructure cost for each new property site, these costs could be calculated for a broader area such as a new development or a neighbourhood.
- The development charge should include a capacity component that covers the capital cost of constructing the facility, plus a location or distance/density charge that reflects the capital cost of extending the service to particular properties or neighbourhoods.

User Fees

As with property taxes, current practice in setting user fees almost always deviates from the principles of good taxation and pricing. Fees are generally set to generate revenue rather than to direct resources to their most efficient use. This failure to price properly — to vary charges by the season and time of day, when capacity constraints exist, when second-best considerations are prevalent, and when externalities are observed — has created a good deal of unplanned and implicit income redistribution, much of which would be unacceptable if it were made explicit. Failure to include all costs (asset replacement costs and a variety of opportunity costs) in charging and pricing structures has led to a demand for services — and, subsequently, for physical infrastructure with which to provide these services — that is frequently neither efficient nor optimal. In general, inefficiently set user fees have led to overinvestment and larger plants or facilities than would be justified if more efficient pricing practices were adopted. Accordingly, I propose the adoption of the following policies.

Water and Sewers

- Meters should be used.
- Accounting, budgeting, and information retrieval systems that permit the collection of all necessary costing and usage data should be implemented.
- All opportunity costs of water and sewer provision, including annual asset replacement costs, should be calculated and incorporated into prices.
- Time-of-use prices should be implemented to capture variations in costs according to the season or time of day.
- Multipart prices should be used to capture differences in operating and capital costs.



Solid Waste

- A per bag fee should be charged for garbage collection.
- Tipping fees should be introduced for solid waste disposal that capture all costs, including the opportunity costs of landfill sites.

Public Transit and Transportation

- Higher prices for peak-hour travel should be introduced to reduce demand during that time and to encourage use during off-peak hours. This would reduce overinvestment in public transit infrastructure.
- To discourage the use of private automobiles, especially during peak hours, cities should be permitted to impose higher taxes on parking lots, to add a city vehicle registration fee to the current provincial fee, to issue drivers' licence fees with differential rates, to have a dedicated municipal fuel tax with rates set locally, and to use tolls or congestion charges on major arterial roads.

New Taxes

Provinces should give cities, especially the larger ones, access to new or additional taxes, with tax rates set locally and piggybacked onto the provincial tax base. This would offer cities a number of advantages under the benefits-based principles of government finance. First, one or more of these taxes could be justified on the grounds that cities would be able to tax both residents and nonresidents (commuters and visitors) for services which both groups consume but for which the latter does not pay. Second, an expanded range of taxes would provide cities more flexibility and autonomy. Third, since no single tax is entirely fair and free of distortion or can achieve all important social and economic policy objectives, the opportunity for a city to impose a range of taxes on its permanent residents may prove beneficial. To that end, I propose the following policy changes:

- Cities should be given access to new tax sources.
- Cities (not provinces) should be responsible for setting their own tax rates.
- Consumption-based alternatives should take precedence over the personal income tax, with the highest priority given to a city fuel tax, followed by a hotel and motel occupancy tax and a general city sales tax. A city personal income tax, however, would be inappropriate given current fiscal realities.

Capital Financing

Concern over capital or infrastructure financing arises for at least three reasons. First, cities are the venues for most physical infrastructure in Canada and where the most serious problems in terms of

rehabilitation, repair, and expansion are apparent. Second, when compared with the provinces, cities face more constraints on their spending and financing activities, leaving them with limited flexibility and little autonomy. Third, recent trends in financing capital projects indicate that borrowing by cities has generally declined in relative importance and that their own-source revenues — reserves created by development charges and capital tax levies — have become more important. This points to an increased emphasis on “pay-as-you-go” financing, a practice that is contrary to financing on the basis of benefits received.

The importance of infrastructure for improving Canadians’ quality of life and enhancing Canada’s competitiveness suggests that the following changes are in order:

- Cities, where they have the capacity, should borrow to finance infrastructure that benefits future generations.
- Cities should have access to new financing instruments, including revenue bonds and the opportunity to create tax incremental financing districts.
- Cities should move to a system of full accrual accounting, where all capital assets are amortized over their expected life rather than expensed in the year of purchase.
- Provincial governments should mandate that cities implement asset management schemes.

The Federal Government’s Role

Finally, within the benefits-based model of intergovernmental finance, the federal government’s role should be limited to funding those services for which it is directly responsible, such as immigration and urban aboriginal programs, and programs that are in the national interest or where Ottawa should have a national presence, such as social housing. Since it has no constitutional right to give cities access to new revenue sources or financing instruments, Ottawa should not participate in revenue-sharing programs, such as its promise to give municipalities 5 cents per litre of the federal gas tax revenue.



APPENDIX: THE REVENUE YIELD OF NEW TAXES

Estimates of the possible revenue yield from the imposition of new taxes by cities vary because the taxes would have different bases. These estimates are presented in Table A-1, which shows, for selected cities, the tax rate that would be needed to raise additional revenue equal to 10 percent of their municipal property tax from each of three new taxes: on income, general sales, and fuel.

The table shows that a surtax on the provincial income tax of between 3 percent (in the case of Calgary) and just over 7 percent (in the case of Hamilton) would be sufficient to raise an amount equivalent to 10 percent of the property tax. Similarly, an increase in the general sales tax of 0.5 to 0.7 of a percentage point would be sufficient (such a surtax would be irrelevant in Alberta, of course, since that province does not levy a sales tax). Finally, if the revenue were generated by a fuel tax, the rate would have to range from 2.3 cents per litre in Vancouver to 6.6 cents per litre in Toronto. In most other large cities, the rate would be less than 5 cents per litre.

Table A-1: Effect on Municipal Tax Rates of Raising Additional Tax Revenue Equal to 10 Percent of Property Taxes, Selected Canadian Cities

	10% of Property Tax Revenue, 2000	Surtax Rate on Provincial Personal Income Tax	Increase in Provincial Sales Tax Rate	Increase in Fuel Tax
	<i>(\$ millions)</i>	<i>(% increase)</i>	<i>(percentage point increase)</i>	<i>(cents per litre)</i>
St. John's	8.17	4.5	0.5	4.6
Halifax	32.52	5.3	0.7	5.2
Fredericton	4.19	4.8	0.6	3.0
Montreal	118.09	4.7	1.0	4.1
Ottawa	78.42	4.9	0.6	3.0
Toronto	249.43	5.6	0.7	6.6
Hamilton	46.31	7.2	0.7	6.2
London	26.95	5.6	0.6	4.9
Winnipeg	43.10	3.9	0.5	3.7
Calgary	56.05	3.0	n.a.	3.5
Edmonton	40.62	4.4	n.a.	3.3
Vancouver	43.93	4.1	0.5	2.3

n.a. Estimates not possible because of the absence of provincial sales tax.

Note: Estimates are for 2000 because of the availability of comparable data for that year for the selected cities. Revenue from a hotel and motel occupancy tax is not included because the yield from such a tax would be so much smaller than that from the other taxes that any comparison with them would be basically meaningless.

Source: Author's calculations based on data from Statistics Canada, Financial Management Systems, June 2002.

REFERENCES

- Bird, Richard M. 1993. "Threading the Fiscal Labyrinth: Some Issues in Fiscal Decentralization". *National Tax Journal* 46 (2): 207–27.
- . 2000. "Intergovernmental Fiscal Relations in Latin America: Policy Design and Outcomes". Washington, DC: Inter-American Development Bank.
- . 2001a. "User Charges in Local Government Finance". In *The Challenge of Urban Government: Policies and Practices*, edited by Mila Freire and Richard Stren. Washington, DC: World Bank.
- . 2001b. "Subnational Revenues: Realities and Prospects". Washington, DC: World Bank Institute.
- . 2003. "Local and Regional Revenues". Washington, DC: World Bank Institute.
- Bird, Richard M., and Duan-jie Chen. 1998. "Federal Finance and Fiscal Federalism: The Two Worlds of Canadian Public Finance". *Canadian Public Administration* 1 (1): 50–74.
- Bird, Richard M., and Jack M. Mintz. 2000. "Tax Assignment in Canada: A Modest Proposal". In *Canada: The State of the Federation 1999/2000*, edited by Harvey Lazar. Kingston, Ont.: Queen's University, Institute of Intergovernmental Relations.
- Bird, Richard M., and Enid Slack. 2002. "Land and Property Taxation around the World: A Review". *Journal of Property Tax Assessment and Administration* 7 (3): 31–80.
- . 2004. "Fiscal Aspects of Metropolitan Governance". International Tax Program Paper 0401. Toronto: University of Toronto, Joseph L. Rotman School of Management.
- Bird, Richard M., and Thomas Tsiopoulos. 1997. "User Charges for Public Services: Potential and Problems". *Canadian Tax Journal* 45 (1): 25–86.
- Bird, Richard, M., and Thomas A. Wilson. 2003. "A Tax Strategy for Ontario". Research Paper 32. Toronto: Panel on the Role of Government in Ontario; available from web site <www.law-lib.utoronto.ca/investing/index.htm>.
- Boadway, Robin, and Harry Kitchen. 1999. *Canadian Tax Policy*, 3rd ed. Toronto: Canadian Tax Foundation.
- Borge, Lars-Erik, and Jorn Rattso. 2003. "The Relationship between Costs and User Charges: The Case of a Norwegian Utility Service". CES Working Paper 1033. Munich: University of Munich, Center for Economic Studies.
- Brandes, Oliver M., and Tony Maas. 2004. "Developing Sustainability through Urban Water Demand Management". Presentation at a workshop on "Charting the Course for Sustainable Water Use in Canada", Ottawa, April 14.
- Brunori, George. 2003. *Local Tax Policy: A Federal Perspective*. Washington, DC: Urban Institute Press.

- Canada. 1997. Department of Finance. *Report of the Technical Committee on Business Taxation*. Ottawa.
- Chernick, Howard. 2002. "The Effect of Commuters on the Fiscal Costs of the District of Columbia". City University of New York, Hunter College. Mimeographed.
- Chernick, Howard, and Olesya Tkacheva. 2002. "The Commuter Tax and the Fiscal Cost of Commuters in New York City". *State Tax Notes* 25 (6): 451–56.
- Chesnutt, T.W., et al. 1996. *Designing, Evaluating and Implementing Conservation Rate Structures*. Sacramento: California Urban Water Conservation Council.
- Cuthbert, Richard W., and Pamela R. Lemoine. 1996. "Conservation-Oriented Water Rates". *Journal (American Water Works Association)* 88 (11): 68–78.
- Daniere, Amrita G., and Jose A. Gomez-Ibanez. 2002. "Environmental and Communications Infrastructure in Chile". In *Chile: Political Economy of Urban Development*, edited by Edward L. Glaeser and John R. Meyer. Cambridge, Mass.: Harvard University, John F. Kennedy School of Government.
- Deweese, Don. 2002. "Pricing Municipal Services — The Economics of User Fees". *Canadian Tax Journal* 50 (2): 586–99.
- Downing, Paul P., and Thomas S. McCaleb. 1987. "The Economics of Development Exactions". In *Development Exactions*, edited by James E. Frank and Robert M. Rhodes. Washington, DC: Planners Press.
- Duff, David G. 2003. "Benefit Taxes and User Fees in Theory and Practice". Research Paper 45. Toronto: Panel on the Role of Government in Ontario; available from web site <www.law-lib.utoronto.ca/investing/index.htm>.
- Easter, K.W., G. Feder, G. Le Moigne, and A. Duda. 1993. *Water Resources Management: A World Bank Policy Paper*. Washington, DC: World Bank.
- Federation of Canadian Municipalities. 2001. "A Better Quality of Life through Sustainable Community Development: Priorities and Investment Plan". Ottawa.
- Gardner, Gary. 1997. "Recycling Organic Waste: From Urban Pollutant to Farm Resource". Worldwatch Paper 135. Washington, DC: Worldwatch Institute.
- GeoEconomics Associates Incorporated, Jeff Harris, Don Tate, Steven Renzetti, and Acres Associated Environmental Limited. 2002. "Economic Principles and Concepts as Applied to Municipal Water Utilities". Study for the Ontario SuperBuild Corporation. Toronto.
- Kitchen, Harry. 1990. "Urban Transportation Policy". In *Urban Policy Issues: Canadian Perspectives*, edited by Richard A. Loreto and Trevor Price. Toronto: McClelland and Stewart.
- . 1992. *Property Taxation in Canada*. Toronto: Canadian Tax Foundation.
- . 1997. "Pricing of Local Government Services". In *Urban Governance and Finance: A Question of Who Does What*, edited by Paul A.R. Hobson and France St-Hilaire. Montreal: Institute for Research on Public Policy.



- . 2000. “Municipal Finance in a New Fiscal Environment”. *C.D. Howe Institute Commentary* 147. Toronto: C.D. Howe Institute.
- . 2002a. “Canadian Municipalities: Fiscal Trends and Sustainability”. *Canadian Tax Journal* 50 (1): 156–80.
- . 2002b. *Municipal Revenue and Expenditure Issues in Canada*. Toronto: Canadian Tax Foundation.
- . 2002c. “Financing Municipal Infrastructure in Ontario”. Report prepared for the Construction Workers Union, Local 183, Toronto.
- . 2003a. “Property Taxation: Issues in Implementation”. Paper prepared for the Consortium for Economic Policy Research and Advice. Ottawa: Association of Universities and Colleges of Canada.
- . 2003b. “Physical Infrastructure and Financing”. Research Paper 44. Toronto: Panel on the Role of Government in Ontario; available from web site <www.law-lib.utoronto.ca/investing/index.htm>.
- . 2003c. “Local Taxation in Selected Countries: A Comparative Examination”. Paper prepared for the Consortium for Economic Policy Research and Advice. Ottawa: Association of Universities and Colleges of Canada.
- . 2003d. “Financing Cities and Fiscal Sustainability”. In *Paying for Cities: The Search for Sustainable Municipal Revenues*, edited by Paul Boothe. Edmonton: University of Alberta, Institute for Public Economics.
- Kitchen, Harry, and Enid Slack. 1993. “Business Property Taxation”. Government and Competitiveness Project Discussion Paper 93-24. Kingston, Ont.: Queen’s University, School of Policy Studies.
- . 2003. “Special Study: New Finance Options for Municipal Governments”. *Canadian Tax Journal* 51 (6): 2215–75.
- KPMG. 1995. “Study of Consumption of Tax Supported City Services”. Report prepared for the City of Vancouver. Vancouver.
- McClure, Jr., Charles E. 2001. “The Tax Assignment Problem: Ruminations on How Theory and Practice Depend on History”. *National Tax Journal* 54 (2): 339–64.
- McRae, James J. 1994. “Efficient Production of Solid Waste Services by Municipal Governments”. Government and Competitiveness Project Discussion Paper 94-11. Kingston, Ont.: Queen’s University, School of Policy Studies.
- Mann, Patrick C. 1999. “Financing Mechanisms for Capital Improvements for Regulated Water Utilities”. Report prepared for the National Regulatory Research Institute. Columbus: Ohio State University.
- Miranda, Marie Lynn, and Joseph E. Aldy. 1996. “Unit Pricing of Residential Municipal Solid Waste: Lessons from Nine Case Study Communities”. Report prepared for the Office of Policy, Planning and Evaluation, US Environmental Protection Agency. Durham, NC: Duke University School of the Environment.

- Miranda, Marie Lynn, Jess W. Everett, Daniel Blume, and Barbara A. Roy, Jr. 1994. "Market-Based Incentives and Residential Municipal Solid Waste". *Journal of Policy Analysis and Management* 13 (4): 681–98.
- MMK Consulting Inc. 2004. "Consumption of Tax Supported Municipal Services in the City of North Vancouver for the 2003 Tax Year" and "Consumption of Tax Supported Municipal Services in the District of North Vancouver for the 2003 Tax Year". Reports prepared for the North Shore Waterfront Industrial Association. Vancouver.
- Moore, Jennifer. 2004. "Charting the Course for Sustainable Water Use in Canada: Proceedings of a Workshop held April 4, 2004". Ottawa: Department of the Environment. Mimeographed.
- Ontario. 1993. *Fair Taxation in a Changing World: Report of the Ontario Fair Tax Commission*. Toronto: University of Toronto Press in cooperation with the Ontario Fair Tax Commission.
- . 1994. Ministry of the Environment and Energy. *Greater Toronto Area 3Rs Analysis: EA Input Document*. Toronto.
- . 2004. Panel on the Role of Government. *Investing in People: Creating a Human Capital Society for Ontario*. Toronto: Queen's Printer for Ontario.
- Onyschuk, S., M.G. Kovacevic, and P. Nikolakakos. 2001. *Smart Growth in America: New Ways to Create Liveable Communities*. Toronto: Canadian Urban Institute.
- Renzetti, Steven. 1992. "Evaluating the Welfare Effects of Reforming Municipal Water Prices". *Journal of Environmental Economics and Management* 22 (2): 147–63.
- . 1999. "Municipal Water Supply and Sewage Treatment: Costs, Prices and Distortions". *Canadian Journal of Economics* 32 (3): 688–704.
- Renzetti, Steven, and Joseph Kushner. 2001. "The Under Pricing of Water Supply and Sewage Treatment". St. Catharines, Ont.: Brock University, Economics Department. Mimeographed.
- Rosen, Harvey S., Bev Dahlby, Roger S. Smith, and Paul Boothe. 2003. *Public Finance in Canada*. Toronto: McGraw-Hill Ryerson.
- Skumatz, Lisa A., and Cabell Breckinridge. 1990. *Variable Rates in Solid Waste: Handbook for Solid Waste Officials*, vol. 1, *Executive Summary*. Seattle: Seattle Solid Waste Utility.
- Slack, Enid. 1994. *Development Charges in Canadian Municipalities: An Analysis*. Toronto: Intergovernmental Committee on Urban and Regional Research.
- . 2002a. "Municipal Finance and the Pattern of Urban Growth". *C.D. Howe Institute Commentary* 160. Toronto: C.D. Howe Institute.
- . 2002b. "Property Tax Reform in Ontario: What Have We Learned?". *Canadian Tax Journal* 50 (2): 576–85.
- Slack, Enid, and Richard Bird. 1991. "Financing Urban Growth through Development Charges". *Canadian Tax Journal* 39 (5): 1288–1304.
- . 2004. "The Fiscal Sustainability of the Greater Toronto Area". International Tax Program Paper 0405; available at web site <www.rotman.utoronto.ca/iib>.



- Tomalty, Ray, and Andrejs Skaburskis. 1997. "Negotiating Development Charges in Ontario: Average Cost versus Marginal Cost Pricing of Services". *Urban Studies* 34 (12): 1987–2002.
- Word, Joe D., Katherine Higginbotham, and David Pluenneke. 1992. "Variable Rate System Works in Texas". *BioCycle* 33 (7): 52–53.

Selected Publications from the AIMS Library

Urban Futures Series

"Smart Growth": Threatening the Quality of Life,
by Wendell Cox

*Do Cities Create Wealth? A Critique of New Urban
Thinking and the Role of Public Policy for Cities,*
by Patrick Luciani

Books

*Retreat from Growth: Atlantic Canada and the Negative-
Sum Economy,* by Fred McMahon

*Road to Growth: How Lagging Economies Become
Prosperous,* by Fred McMahon

*Looking the Gift Horse in the Mouth: The Impact of
Federal Transfers on Atlantic Canada,* by Fred McMahon
(photocopies only)

Commentary Series

*Locking Up the Pork Barrel: Reasoned Economic
Development Takes a Back Seat to Politics at ACOA,* by
Brian Lee Crowley and Bruce Winchester

*Following the Money Trail: Figuring Out Just How
Large Subsidies to Business Are in Atlantic Canada,* by
David Murrell

*First, Do No Harm: What Role for ACOA in Atlantic
Canada?* by Brian Lee Crowley

Jobs! Jobs! Jobs! The Numbers Game, ACOA Watch 1

Research Reports

*Doing Business with the Devil: Land, Sovereignty, and
Corporate Partnerships in Membertou Inc.,* by Jacquelyn
Thayer Scott

*Framing the Fish Farmers: The Impact of Activists on
Media and Public Opinion about the Aquaculture
Industry,* by Jeff Chatterton

*You Can Get There from Here: How Ottawa Can Put
Atlantic Canada on the Road to Prosperity,* by Brian Lee
Crowley and Don McIver

*Grading Our Future 2: Atlantic Canada's High Schools'
Accountability and Performance in Context,* by Rick Audas
and Charles Cirtwill

The Atlantica Power Market: A Plan for Joint Action, by
Gordon L. Weil

*Fencing the Last Frontier: The Case for Property Rights
in Canadian Aquaculture,* by Robin Neill

Definitely Not the Romanow Report, by Brian Lee Crowley,
Brian Ferguson, David Zitner, and Brett J. Skinner

*Rags to Riches: How "The Regions" Can and Should Be
Leading Canada's Productivity Push,* by Brian Lee Crowley

*Taxing Incentives: How Equalization Distorts Tax Policy
in Recipient Provinces,* by Kenneth J. Boessenkool

Fiscal Equalization Revisited, by Professor James M.
Buchanan, Nobel Laureate

*Testing & Accountability: The Keys to Educational
Excellence in Atlantic Canada,* by Charles Cirtwill, Rod
Clifton, and John D'Orsay

Public Health, State Secret, by Dr. David Zitner and
Brian Lee Crowley

*Taking Off the Shackles: Equalization and the
Development of Nonrenewable Resources in Atlantic
Canada,* by Kenneth J. Boessenkool

*Beyond a Hard Place: The Effects of Employment
Insurance Reform on Atlantic Canada's Economic
Dependency,* by Rick Audas and David Murrell

Conferences

*"Smart Growth": How Urban Planners Are Threatening
the Quality of Life in Our Cities,* February 23, 2004,
Halifax, Nova Scotia

*Nation States and Economic Regions in the Global
Network,* May 13, 2004, Halifax, Nova Scotia

*Atlantic Canada and the Canada-American Border of the
Future,* November 22, 2002, Halifax, Nova Scotia

*Plugging in Atlantic Canada: How Will Competition,
Deregulation and Privatization in the Continental
Electricity Market Affect Us?* October 27, 2000, Halifax,
Nova Scotia

These publications are available at AIMS, 2000 Barrington St., Suite 1006, Halifax NS B3J 3K1
Telephone: (902) 429-1143 Facsimile: (902) 425-1393 E-mail: aims@aims.ca
They can also be found on our Web site at: www.aims.ca



2000 Barrington St., Suite 1006
Halifax NS B3J 3K1

Telephone: (902) 429-1143

Facsimile: (902) 425-1393

E-mail: aims@aims.ca

Web site: www.aims.ca