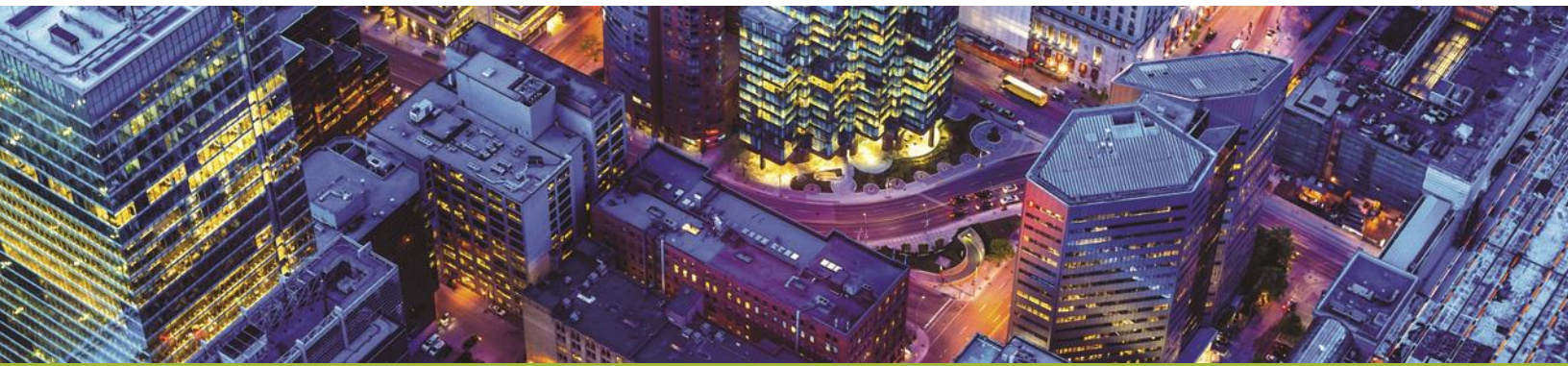


Faculty of Community Services

Centre for Urban Research and Land Development



New Direction for Funding Growth- Related Water and Wastewater Infrastructure in the Greater Toronto Area and Hamilton

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The opinions expressed in this research report are those of the author only and do not represent opinions and views of either CUR or Ryerson University.

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EXECUTIVE SUMMARY

The financing of growth-related water and wastewater infrastructure is out of step with other public and private utilities

There is a fundamental difference between the ways in which municipal water and wastewater (sewer) utilities and municipal electric and private sector utilities in Ontario fund growth-related infrastructure. Municipal water and wastewater utilities impose development charges on new residential, commercial and industrial development to fund infrastructure development which is required to accommodate a growing customer base. In contrast, private sector utilities and municipal electric utilities in Ontario finance both growth-related infrastructure and the maintenance of the quality of the existing infrastructure through user fees which are spread over their total customer base.

Origin of funding growth-related water and wastewater infrastructure through development charges

In the period immediately following World War II there was an upsurge in the demand for new housing and employment floor space. Municipalities received financial subsidies from the provincial and federal governments to fund much of the required expansion of sewer and water infrastructure.

However, the senior governments eventually reduced their funding, and municipal councils were reluctant to impose significant increases in user fees for either growth-related infrastructure or the maintenance of the quality of the existing infrastructure. This resulted in municipalities looking for alternative revenue sources. Developers and builders who were active in their communities were obvious targets for funding growth-related infrastructure which often became a condition for planning approval.

In 1989, the Ontario government gave all municipalities in the province authority to impose development charges to fund growth-related infrastructure under the Development Charges Act, 1989. However, development charges had to be tied to the costs of providing infrastructure for growth-related services under the premise that “growth must pay for growth”.

The main purpose of development charges was then, and is now, to raise revenue to finance growth-related infrastructure without burdening existing taxpayers. In recent times, there have been advocates, largely from within the urban planning community, who argued that development charges should be a planning tool configured to encourage more compact, dense growth and to discourage lower density development on the urban fringe.

Problems with funding growth-related water and wastewater infrastructure through development charges

The economic consequences of relying on development charges to fund growth-related water and wastewater infrastructure are threefold:

- It fosters economic inefficiency through overconsumption of water and wastewater over the entire user base.

Water and wastewater users, as a group, over-consume water and wastewater services since they are not paying the full cost of providing these services. This results in over-investing in infrastructure to provide service to the new development.

- It reduces housing affordability.

Relying on development charges to fund growth-related water and wastewater infrastructure directly increases the development costs for all types of new housing by as much as \$26,000 per unit. Prices of existing housing also increase because of the competitive interaction of the new and resale housing submarkets. This aggravates an already serious housing affordability problem in the Greater Toronto Area and Hamilton (GTAH).

- It creates inequity between water and wastewater users residing in the existing building stock and the occupants in new development.

As well as bearing the costs of growth-related infrastructure, occupants in new development are paying a portion of the costs of maintaining, rehabilitating, and replacing the existing municipal-wide water and wastewater infrastructure through the user charges. The existing water and wastewater infrastructure primarily benefits residents who, and businesses which, are accommodated in the existing building stock. Therefore, because of the contributions of the occupants of new development, users in existing properties pay lower user fees than they otherwise would to maintain the existing infrastructure system.

Economic benefits of applying user charges rather than development charges to the funding of growth-related water and wastewater infrastructure

Shifting the source of funding of growth-related water and wastewater infrastructure to user charges would have a number of economic benefits to the wider community in the GTAH:

- Better matching of infrastructure costs and the beneficiaries of urban economic growth

The primary argument which has been raised in favour of using development charges to fund the expansion of urban infrastructure is that growth should pay its own way and not impose costs on existing property taxpayers who live in the municipality. The theoretical underpinning for imposing development charges so “that growth pays for growth” lacks credibility given that

the expansion of municipal infrastructure contributes to economic growth and the benefits are spread over the larger community including existing property taxpayers.

- Increased economic efficiency through reduced consumption of water and wastewater over the entire user base

Shifting the cost of growth-related water and wastewater infrastructure to user charges has the benefit of ensuring that all users bear the full cost of the provision of these services, including growth-related capital infrastructure investment. Applying these full-recovery charges would encourage all water and wastewater consumers to reduce their consumption to the benefit of the environment. The lower consumption would also make more efficient use of existing infrastructure and reduce the need for the building of new infrastructure.

- Increased housing affordability

Eliminating development charges for water and wastewater purposes would lower the cost base of building new homes. In a competitive housing market like the GTAH market these lower costs, in turn, would ultimately be reflected in lower end prices.

- More equitable treatment of water and wastewater users residing in the existing building stock and the occupants in new development

The shift in financing of growth-related infrastructure to user charges would also remove the existing inequity. That is, the occupants of new housing pay part of the capital cost of maintaining the existing municipal-wide water and wastewater infrastructure but existing users do not contribute to the funding of growth-related infrastructure.

Conclusion: Growth-related water and wastewater infrastructure should be financed by user charges rather than by development charges

The analysis and findings of this study indicate that there is no convincing basis for funding growth-related infrastructure through development charges and funding outlays for the maintenance, rehabilitation, and replacement of the existing municipal-wide infrastructure through user charges. Both sets of capital improvements should be funded through user charges.

Recommendations: Phase out water and wastewater development charges over five years

This study recommends that the funding of growth-related water and wastewater infrastructure through user charges rather than development charges be phased in over a period of five years. It further recommends that the Development Charges Act be amended to disallow the funding of growth-related water and wastewater infrastructure after five years.

This study also recommends that municipalities establish independent utilities to fund and operate water and wastewater services on a business basis as do electrical and private sector utilities which operate in the province. All capital outlays would be financed through user charges or through debt where servicing is funded through user fees. The new water and wastewater utilities should have the power to issue debt based upon the individual utility's financial situation separate from a municipality's debt. The board of directors of the new utilities should be drawn largely from the business community with municipal politicians and staff playing a limited role.

Finally, it recommends that the province appoint an advisory committee to provide advice on the implementation of the change. The committee should include representation from municipalities, the development/building community, and the broader business community.

There is, of course, no reason, once the water and wastewater operations of municipalities are reorganized on a business basis, for municipalities to own and operate these utilities. Depending upon local circumstances, municipalities may find it advantageous to sell these utilities to the private sector or to have the private sector manage and operate them.

Impact of recommendation on user charges

The impact of shifting the financing of growth-related water and wastewater infrastructure investment from development charges to use charges would vary depending on the mix of future infrastructure investment between growth-related and other (maintenance, rehabilitation, and replacement related) investment in the existing infrastructure network in municipalities within the GTA.

For the city of Toronto, the impact on water and wastewater customers would be inconsequential as little of the city's infrastructure investments which have been planned for the next decade are growth-related. For Halton Region, on the other hand, future growth-related capital outlays are expected to be more significant. The projected annual increases in annual charges on a typical household, which have already been projected by the Region for the next decade as a whole, are expected to double from about 5% to 10%, based on an estimate which has been made in this report.

1. INTRODUCTION

1.1 Purpose of study

This study is designed to:

- Probe differences in the financing of municipal water and wastewater (sewer) utility services with private sector and municipal electric utilities and explore reasons for these differences;
- Examine the case for financing growth-related infrastructure for water and wastewater services in the same way as private sector utility and municipal electric providers and the implications of doing so; and
- Reach conclusions and provide recommendations for the future financing of municipal water and wastewater growth-related infrastructure in the Greater Toronto Area and Hamilton (GTAH).

1.2 Background and scope of study

In the GTAH, municipalities provide water and wastewater services to their residents and businesses. The provision of these services and the maintenance, rehabilitation and improvement of the existing physical infrastructure (referred to here as maintenance of the existing infrastructure) are largely financed through user charges.¹ In contrast, the expansion of the physical infrastructure to accommodate new development is funded largely through development charges (DCs) which municipalities levy on new development.²

The financing of new growth-related water and wastewater infrastructure is a significant component of the total development charges levied on new housing and other types of real estate development. Development charges in turn are sizeable costs of new development.³

Private sector providers of utilities to residents and businesses, such as telecommunication and natural gas providers, as well as municipal electric utilities, fund all of their service and infrastructure costs through user charges. Development charges are not a source of their funding.

This research project is intended to respond to the following questions:

- How are water and wastewater services funded in the GTAH, and how does this differ from private sector and municipal electric providers of utility services?

¹ These capital outlays for the existing municipal-wide systems are referred to as the state-of-good-repair capital program (SOGR) in the lexicon of the water and wastewater sector.

² The statutory authority for Ontario municipalities levying development charges for growth-related capital expenditures is the *Development Charges Act, 1997*.

³ See Appendix A for an examination of government fees and charges, including development charges in relation to the prices of new housing.

- What are the reasons for these differences in the financing mechanisms?
- What are the implications of these differences for economic efficiency, development costs, development patterns and the equitable treatment of all residents and businesses?
- Should the financing of water and wastewater service infrastructure be transitioned over time to mirror the means of financing used in the private sector and by municipal electric utilities?

1.3 Research approach

The approach used for this study includes:

- A review of literature dealing with the provision and financing of municipal water and wastewater services in Ontario and impacts of the current financing method;
- A review of municipal financial statements and associated documents and reports dealing with the provision and financing of water and wastewater services for the Cities of Toronto and Hamilton and the Regions of Durham, York, Peel and Halton;
- A review of the financial statements and related documents of two private sector utilities operating in the GTA (Rogers and Enbridge) and two distributors of electricity at the municipal level (Toronto Hydro and PowerStream Inc.);
- A comparison of the similarities among, and differences between, the financing of water and wastewater infrastructure and the other utilities which are being considered;
- An assessment of the relative impacts of the two financing regimes on economic efficiency development costs, development patterns, the equitable treatment of residents and businesses accommodated in existing real estate and new development; and
- Recommendations for the future financing of growth-related water and wastewater services and infrastructure within the GTA.

1.4 Report structure

This report has five chapters in addition to the Introduction:

- Chapter 2 describes and compares the pricing and financing of municipal water and wastewater services and private sector and municipal electric utilities operating in the GTA.
- Chapter 3 explores the ways in which water and wastewater utilities in Ontario evolved differently over time from the ways in which municipal electric utilities and private utilities in the natural gas and telecommunications areas developed, and examines their relative impacts.
- Chapter 4 presents the arguments which are used by the supporters of the use of development charges to fund growth-related water and wastewater infrastructure.

- Chapter 5 critiques the arguments used to support the use of development charges to fund growth-related infrastructure investment with a focus on water and wastewater infrastructure.
- Chapter 6 summarizes the study's findings and provides recommendations regarding the pricing and financing of municipal water and wastewater services in the GTA/H with a focus on the financing of growth-related infrastructure.

The report contains two appendices:

- Appendix A contains an analysis of the relationship of development charges and the price of new housing in the GTA/H.
- Appendix B provides an economic explanation of the expectation that housing prices would decline if growth-related water and wastewater infrastructure costs were removed from development charges in the GTA/H.

2. COMPARISON OF THE PRICING AND FINANCING OF PUBLICLY- AND PRIVATELY-PROVIDED UTILITY SERVICES IN THE GTAH

This chapter compares the financing conventions for water and wastewater utilities in the GTAH with the way that privately-owned utilities and municipal electric utilities finance their services and capital requirements. It focuses on the financing of growth-related capital infrastructure.

2.1 Municipal Water and Wastewater Services in the GTAH

2.1.1 Overview

Key attributes of the responsibility, pricing and financing of municipal water and wastewater services in the GTAH are as follows:

- The provision of water and wastewater in the GTAH is the responsibility of the upper tier municipalities in the regions, and of the Cities of Toronto and Hamilton in the single-tier municipalities. York Region is the exception here. The local municipalities purchase water from the Region, deliver it to their residents and are responsible for collecting wastewater within their boundaries. This wastewater is then treated by the Region.
- Municipalities in the GTAH operate their water and wastewater services as part of a municipal department with budgets and finances which are subject to ongoing municipal scrutiny and council approvals. Also, any debt which is issued for water and wastewater infrastructure is debt of the municipality.
- Full cost recovery for water and wastewater services was part of the recommendations made by the Walkerton Inquiry. Under the Province's Sustainable Water and Sewage Systems Act passed on December 13, 2002, municipalities are required to price water and wastewater services on a full recovery cost accounting basis once the regulations for the Act are released. As of the date of report writing, the regulations have not yet been issued. Nonetheless, the municipal sector is moving ahead with full-cost pricing.⁴
- Under full-cost pricing, user charges are sufficient to cover all current and capital expenditures which are incurred, but which are not recovered from other sources (for example, growth-related capital outlays funded by development charges would not be covered), to provide water and wastewater services to customers.
- Sewer user charges are usually imposed as a surcharge on water usage.

⁴ Watson & Associates Economists Ltd., *Towards Full Cost Recovery: Best Practices in Cost Recovery for Municipal Water and Wastewater Services* (Mississauga: Association of Municipalities of Ontario, 2012), ii, <https://www.amo.on.ca/AMO-PDFs/Reports/2012/Towards-Full-Cost-Recovery-Best-Practices-in-Cost.aspx>.

- Ontario municipalities no longer fund the provision of water and wastewater services through the property tax.
- Water and wastewater utilities typically do not target a return on their investment or on ongoing operations (i.e., they are not endeavouring to make a profit let alone maximizing profits).
- Development charges are the primary source of funding for growth-related new water and wastewater infrastructure.
- A pricing and financing system is evolving in which user revenues cover ongoing provision of water and the maintenance, rehabilitation, and replacement of existing physical infrastructure (pipes, pumping stations, treatment plants, and distribution network), while development charges cover new growth-related infrastructure for both water and wastewater.

2.1.2 Financing ongoing service provision - water services

The Ontario Ministry of Municipal Affairs and Housing publishes data, which are consistent across municipalities, on current revenues and expenses for water service utilities.⁵

Key attributes of the ways in which ongoing operations of water programs of the GTAH municipalities are financed can be seen in Figure 1 and are as follows:

- User charges are by far the largest source of revenues.

Charges levied on the consumers of water within the municipality account for between 81% and 100% of revenues for all municipalities excluding Peel Region where it is considerably lower at 62%.

York Region buys water from Peel Region and, to a lesser extent, the City of Toronto. In 2012, water sales to York Region accounted for a large 38% of Peel Region's water revenues and for 10% of the City of Toronto's water revenues.

Since York Region then sells the water that it buys to its residents and businesses, these Peel Region revenues are also user charges. Adding them to the user charges imposed on its residents and businesses brings the combined user charges in relation to total revenues in Peel Region to par with the other municipalities.

- The water service utilities apply revenues generated by user fees to cover interest payments and to cover the depreciation of the existing capital infrastructure (called "amortization expenses" in the Province's statistics).

⁵ See the Financial Information Returns (FIR) which were filed by Ontario municipalities, and which the Ministry posted on its website. At the time that the research was done not all GTAH municipalities had filed their 2013 returns so the 2012 returns are sourced here. The data for Figure 1 are taken from Schedule 75A, Statement of Operations Water Services. Halton Region did not provide this water program information in 2012.

Figure 1:
Current Revenues and Expenses for Water Service in the GTAH, 2012

	Halton Region ¹	Peel Region	York Region	Durham Region	City of Toronto	City of Hamilton
<i>\$ Millions</i>						
Revenues						
User Charges		151	92	79	366	77
Revenues from other municipalities		91	0	0	45	3
All Other Revenues		0	21	15	17	-3
Total Revenues		243	115	94	428	77
Expenses						
Operating		109	84	42	151	37
Amortization Expenses (Depreciation)		59	13	20	44	17
Interest Expense		19	31	0	0	1
All Other Expenses		19	-14	5	0	0
Total Expenses		205	115	67	196	54
Net Income		37	0	27	232	23
<i>Percent Distribution²</i>						
Revenues						
User Charges		62	81	84	86	101
Revenues from other municipalities		38	0	0	10	3
All Other Revenues		0	18	16	4	-4
Total Revenues		100	100	100	100	100
Expenses						
Operating		53	73	62	77	68
Amortization Expenses (Depreciation)		29	12	30	23	31
Interest Expense		9	27	0	0	1
All Other Expenses		9	-12	7	0	0
Total Expenses		100	100	100	100	100

¹ Halton Region did not provide this financial information for its water services to the Ministry in 2012.

² Some percentages do not total 100% due to rounding error.

Source: Ontario Ministry of Municipal Affairs and Housing, Financial Information Returns (FIR), 2012.

The user charges which the water utilities levy are set high enough to cover costs related to the financing of capital infrastructure investment. Combined amortization and interest expenses as a percentage of total ongoing costs vary from 23% in the City of Toronto to 38% in Peel Region.

- Three of the five water services generate net income in 2012 with the City of Toronto reporting highest net income/revenue percentage.

The City of Toronto had net income of \$232 million or a huge 54% of the water revenue which was raised in 2012. Hamilton and Durham Regions had the next highest net income ratios at about 29% followed by Peel at 15%

The net incomes reflect that fact that the municipalities have set their user rates high enough to not only cover current expenditures but also to provide funds to maintain, rehabilitate and replace older existing infrastructure.

2.1.3 Financing water service infrastructure – capital expenditure and financing

Unlike data sources for current operations, there is no comprehensive source of financial information on annual capital expenditures and financing for municipal sewer and wastewater services in Ontario. A rough indicator compares infrastructure investment made during the year 2012 to the development charge disbursements made during that year. The development charge disbursements are a proxy for the growth-related infrastructure investment which is contained within the total infrastructure investment. Under full cost pricing, all remaining capital expenditure should be financed through user charges whether directly or indirectly through borrowings.⁶

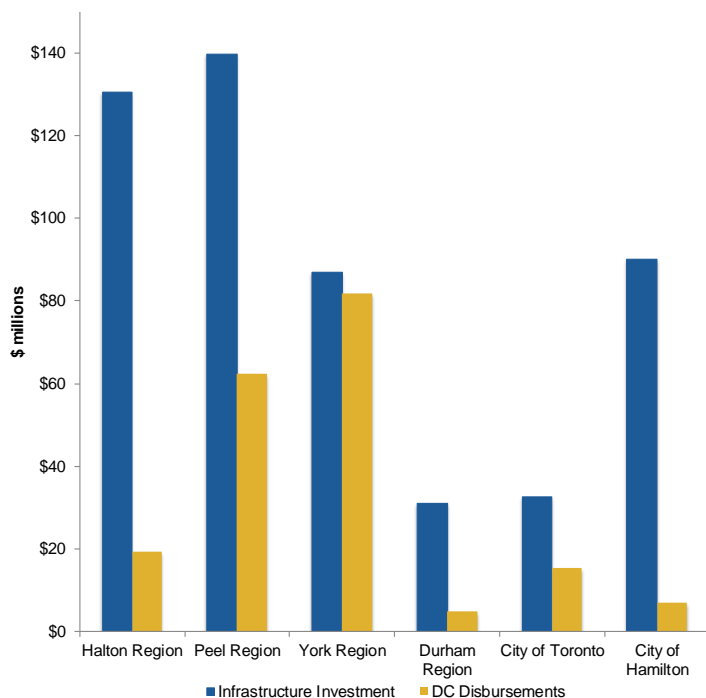
The terminology employed in the Ministry’s municipal financial statistics is unique:

- What are labelled “Additions and Betterments” in Schedule 75, Tangible Capital Asset Continuity by Category, of the Financial Information Return are referred to as “infrastructure investment” here.
- What is labelled “Total DC Disbursements” in Schedule 61, Development Charges Reserve Funds of the Financial Information Return, is regarded as development charge spending on growth-related infrastructure investment and called DC disbursements in Figure 2.⁷

⁶ An exception is when the senior levels of government contribute to water and wastewater infrastructure investment.

⁷ There are oddities in the development charge disbursement figures for 2012. The bulk of the disbursements are to an account called “To Tangible Capital Asset Acquisition” which is presumed to be for infrastructure investment. Both Halton Region and Peel Region indicate that the majority of their development charge disbursements in 2012 were “Other”. The remaining municipalities did not split their development charge disbursements between “To Tangible Capital Asset Acquisition” and “Other”.

**Figure 2:
Water Infrastructure Investment and Development
Charge Disbursement in the GTA, 2012**



Source: Ontario Ministry of Municipal Affairs and Housing, Financial Information Returns (FIR) for the year 2012.

The Financial Information Return data suggest that, in 2012, York Region funded most of its infrastructure through development charge revenues. York Region was followed by Peel Region in this regard. For the remaining four municipal water services, the bulk of the infrastructure spending was not funded with development charges. Presumably, user charges were the prime financing source, directly or indirectly through the payment of debt charges. The Halton Region numbers may be distorted by the prepayment of growth-related infrastructure costs, largely in Milton, in exchange for development charge credits in the future.

of Toronto and Hamilton – the bulk of capital infrastructure investment is not growth-related and is funded through user charges.

It is evident that for the most built-up municipalities – the Cities

2.1.4 Financing ongoing wastewater service provision and capital infrastructure

The financial profiles for wastewater service are similar to those for water service, so a detailed review with summary data would be redundant. Two differences worthy of note are:

- Durham Region is the only municipality receiving significant revenue from another municipality. Durham Region provides wastewater treatment for York Region and receives about 20% of its wastewater revenues from York. The York-Durham sewage system converges at the jointly operated Duffin Creek Water Pollution Control Plant.

With these revenues added to customer user charges earned within Durham, all municipal wastewater operations within the GTA receive the bulk of their revenues from user charges.

- Relatively greater spending on amortization and interest expense In Peel and York Regions

In Peel and York Regions specifically, combined amortization and interest expenses accounted for 52% and 57%, respectively, of total ongoing expenditure in 2012. These are much higher shares than in the other municipalities for which we have financial information. In Peel Region, amortization expense dominated while in York Region the majority of these expenses were for interest.

2.2 Electricity and natural gas distribution & telecommunications suppliers

2.2.1 Background

Water and wastewater services are among a class of services that have a natural monopoly because of their intrinsic nature. Such services are characterized by significantly large infrastructure investment which limits the entry of competitors. It is hard to envisage more than one set of water and sewer pipes under our streets. The provision of electricity shares these characteristics of water and wastewater.

There are other utility services, including the provision of natural gas and telecommunications to residences and businesses, which have only a few suppliers because of the massive infrastructure investments required to provide the services.

In these circumstances, the service providers have control over prices. This can lead to excessive profits which are greater than they would be in a more competitive marketplace. Therefore, government oversight of prices is common to protect consumers from price gouging.

Municipal water and wastewater services are not subject to price review or price regulation in Ontario. In contrast, municipal electricity providers and private providers of natural gas and telecommunications must seek approval from provincial or federal bodies for permission to increase prices. Their capital infrastructure investment programs are often subject to approval, too.

It is meaningful to examine the ways in which industries which provide natural gas, electricity and telecommunications fund infrastructure. This is especially true of growth-related infrastructure because of their similarities to the industries which provide water and wastewater services.

2.2.2 Overview

The financing conventions of municipal electricity and private natural gas and telecommunications services differ from municipal water and wastewater utilities in two substantive ways. That is, the municipal electricity and private natural gas and telecommunications services finance all infrastructure investment through user charges, and they are profit-making.

Government oversight bodies allow the companies in these industries to include approved growth-related infrastructure investment and a profit margin into the fees that they charge to consumers.

2.2.3 Electricity

The financial information for two municipal hydro-electric utilities is summarized in Figure 3. These are the Toronto Hydro Corporation which distributes electricity to customers in the city of Toronto, and PowerStream Inc. which distributes power to a number of municipalities north of the city of Toronto, including Vaughan, Markham, Richmond Hill, Aurora and Barrie.

2.2.3.1 *Financing ongoing operations*

Virtually all of the revenues for the two utilities are obtained from user charges from the distribution and sale of electricity. The predominant cost is for the purchase of power followed by operating expenses. Both utilities have depreciation and amortization costs and interest/net financial costs.

2.2.3.2 *Financing infrastructure costs*

Both utilities undertake large-scale capital infrastructure programs for the existing distribution networks and for new growth-related infrastructure. Net cash used in investing activities in 2012 totalled \$239 million for Toronto Hydro and \$122 million for PowerStream.

Toronto Hydro funded its capital investments largely through its net income, depreciation and amortization costs. In 2012 it did not issue debentures. In contrast, the largest funding source for PowerStream in 2012 was the issuance of debentures.

2.2.4 Natural Gas and Telecommunications

The financial parameters for Enbridge and Rogers are comparable to those of Toronto Hydro and PowerStream. Therefore, to avoid repetition, they are not discussed separately.

Figure 3:
Summary Financial Statistics for Toronto Hydro Corporation
and PowerStream Inc., 2012

	Toronto Hydro Corp		PowerStream Inc	
	\$ Millions	%	\$ Millions	%
Income Statement				
Revenues	2,852	n/a	989	
Costs:				
Purchased Power	2,275	82.0	800	84.0
Operating Expenses	245	9.0	89	9.0
Depreciation/Amortization	141	5.0	33	3.0
Net Financing Changes	73	3.0	24	3.0
All Other Costs	26	1.0	1	0.0
Total Costs	2,760	100.0	947	100.0
Net Income	92	3.0	42	4.0
Cash Flows				
Infrastructure Investments: Net Cash Used in Investment Activities	-239	n/a	-122	
Financing of Infrastructure Investment:				
Net Cash Provided by Operating Activities	220	92.0	102	52.0
Net Cash Provided by Financing Activities	-58	-24.0	74	38.0
Net Change in Cash/Cash Equilization	76	32.0	19	10.0
Total Financing	238	100.0	195	100.0

Source: PowerStream, Inc., Financial Statements December 31, 2012 and December 31, 2011, Vaughan, Ontario, 2012, <http://www.powerstream.ca/ContentMgr/attachments/2012-Audited-Financial-Statements-IFRS.pdf>; Toronto Hydro Corporation, Consolidated Financial Statements, December 31, 2012, <https://www.torontohydro.com/sites/corporate/investorrelations/financialreports/financial%20report/OSC%20FS%20NOTES%20DEC%202012%20-%20FINAL.pdf>.

2.3 Chapter summary

The key differences between the financing of water and wastewater utilities and of electricity, natural gas and telecommunications are:

- User charges for water and wastewater services exclude funding for growth-related capital expenditures. The other utilities fund these outlays through user charges.
- Water and wastewater services fund growth-related capital expenditures through the imposition of development charges. The other utilities do not levy development charges.
- Water and wastewater services are not profit-making in contrast with the other utilities.

3. THE ORIGIN OF FUNDING WATER AND WASTEWATER GROWTH-RELATED EXPENDITURES IN ONTARIO THROUGH DEVELOPMENT CHARGES

3.1 Overview

This chapter explores the ways in which water and wastewater utilities in Ontario evolved differently over time from municipal electric utilities and private utilities in the natural gas and telecommunications areas.⁸ It also examines the reasons why water and wastewater services in Ontario finance growth-related infrastructure through development charges rather than through user charges as the other utilities do.

3.2 Historic evolution – water and wastewater financing⁹

The first piped water supply in Ontario was built in the city of Toronto in 1837 as a private operation. However, through the latter half of the 1800s, the Ontario Government facilitated the creation of municipal water utilities. During the first half of the 20th century, public health concerns drove municipalities to establish and upgrade water and wastewater standards and quality.

Until the Municipal Waterworks Act of 1882, the Province funded municipal infrastructure through its debt. Under the Act the debt was borne by municipalities which, in turn, relied on municipal taxes to cover costs. Municipalities were not compelled by law to provide water service.

Due to changes to the Municipal Act in 1943, municipalities were allowed to fund water and wastewater projects through user rates instead of relying solely on taxes. However, municipalities were reluctant to fund new, or maintain existing, systems. This was despite the population growth that was occurring in the early post-war era after the constraints of the depression of the 1930s and the war years.

The Ontario Government came to the rescue with the establishment of the Ontario Water Resources Commission which had complete oversight of water resources. Over the time up to 2000, the Commission provided hundreds of millions of dollars to municipalities for the purpose of planning, designing and building water and wastewater facilities. Municipalities generally financed loan repayments for waterworks projects through the general property tax, flat rate water user fees,

⁸ It is of interest to note that the City of Edmonton funds growth-related capital expenditures for water through user charges and for wastewater through developer contributions.

⁹ The discussion in this section is largely based on *Drinking Water Management in Ontario: A Brief History*, (Toronto: Ontario Sewer and Watermain Association, 2001), http://www.archives.gov.on.ca/en/e_records/walkerton/part2info/publicsubmissions/pdf/drinkingwaterhistorynew.pdf; and Juli Abouchar and Joanna Vince, *Ten Years After Walkerton – Ontario's Drinking Water Protection Framework Update* (Ottawa: Canadian Bar Association, 2010), http://www.cba.org/cba/cle/PDF/ENV11_Abouchar_paper.pdf.

or a surcharge. The Federal Government also provided capital funding for water and wastewater projects.

An outcome of all this provincial financial assistance was to relieve municipalities of paying the full cost of water and wastewater infrastructure. In fact, many municipalities passed on the provincial subsidies to consumers in the form of lower water rates.

After 1982 the Province began to reduce its financial assistance for new waterworks. This resulted in municipalities looking to developers to shoulder the rapidly-rising costs of growth-related infrastructure.

Following the recommendations of an inquiry into the Walkerton tragedy of 2000, the Province passed the Sustainable Water and Sewage Systems Act on December 13, 2002. This Act required municipalities to price water and wastewater services on a full cost recovery basis once the regulations for the Act were released. However, the Act was never proclaimed and regulations were never developed.

The Financial Plans Regulation under the Safe Water Drinking Act, 2002, came into force in August 2007 for some drinking water systems and for all systems in 2010. It requires municipalities to prepare financial plans to indicate that the drinking water system is financially viable, which is not the same as requiring full cost recovery.

Municipalities in Ontario have had legislative authority to impose development charges to fund growth-related infrastructure since the Development Charges Act was first introduced in 1989.¹⁰ All municipalities within the GTAH levy development charges to fund growth-related water and wastewater infrastructure. As Chapter Two documents, these development charges amount to as much as \$26,000 per new single-detached house.

In Ontario, until the restructuring of the utility sector in the mid-1990s, public utility commissions were widespread as the business model for delivering a range of utility services including water and wastewater.¹¹ The commissions were separate from municipalities although council members were on the boards of directors along with independent members. The business model which is currently used by many municipalities in Ontario to deliver water and wastewater services, including those in the GTAH, is that of a municipal department responsible to the municipal council.

¹⁰ Before 1989, many municipalities imposed charges for infrastructure through the “lot levy” provision of the *Planning Act*. See memorandum from Zaid Sayeed to Gordon Petch, 10 April 2010, re: Onus on Municipality to Justify Development Charges, http://www.municipallawchambers.com/dpt/petch/Uploaded_Files/OnusMunicipalitytoJustifyDevelopmentCharges.pdf.

¹¹ Karen Bakker, *Good Governance in Restructuring Water Supply: A Handbook* (Ottawa: Federation of Canadian Municipalities, and Toronto: Program on Water Issues, 2003), <http://powi.ca/wp-content/uploads/2012/12/Good-Governance-in-Restructuring-Water-Supply-A-Handbook-2003.pdf>.

3.3 Historic evolution – electric and natural gas financing

The Ontario Energy Board now regulates natural gas and electric utilities in Ontario. Its duties include the setting of rates which utilities charge to users.

The Ontario Government created the Ontario Energy Board 960 with the passage of the Ontario Energy Board Act. Among other matters, the Board was authorized to set just and reasonable rates for the sale and storage of natural gas. Amendments to the Act in 1973 extended the mandate of the Board to conduct reviews of rates and rate-related matters of Ontario Hydro. The passage of the Energy Competition Act in 1998 gave the Ontario Energy Board regulatory authority over all market participants in the province's natural gas and electricity industries.¹²

At the beginning of the twentieth century, the Province decided to exploit the hydroelectric potential of Niagara Falls. It established the Ontario Hydro Commission in 1905 to generate and transmit electricity to municipalities which would then distribute it to residents and businesses. At the time there was intense lobbying by both private interests and municipalities for the right to transmit electricity within municipalities. The provincial government of the day supported the municipalities largely on the grounds that they could provide electricity more cheaply than private operators.¹³

Under the Act for the Construction of Municipal Power Works and the Transmission, Distribution and Supply of Electrical and other Power and Energy which the provincial government passed in 1903, municipalities had the power to appoint a hydro Board of Commissioners which had the authority of issuing bonds to fund distribution infrastructure. User charges, including debt servicing, were levied to fund the costs of providing electricity. Initially, the Boards used surpluses of revenues over costs to reduce hydro rates since they could not pay a dividend to the municipality. This changed when the Boards were restructured as business corporations.

There was a major restructuring of the electricity industry in Ontario in the late 1990s with the passage of the Electricity Act, 1998, and the Energy Competition Act, 1998.¹⁴ The Electricity Act required municipalities with municipal electricity utilities (public utilities commissions or hydroelectric commissions) to transfer their electrical asset and liabilities to companies incorporated under the Business Corporations Act (Ontario) with the shares owned by the municipalities.¹⁵ The Ontario Energy Board oversees the rates which these electricity companies can charge users. The Board sets rates to cover approved costs, including approved growth-related infrastructure costs, plus a market-based rate of return.¹⁶

¹² Ontario Energy Board, "History of the OEB, 1960-2010", OEB web site <http://www.ontarioenergyboard.ca/OEB/Industry/About+the+OEB/Legislation/History+of+the+OEB>, July 14, 2014.

¹³ E.B. Biggar, *Hydro-Electric Development in Ontario* (Toronto: The Ryerson Press, 1920).

¹⁴ Stephen Fyfe and William McLean, "Opportunities for Municipally Owned Corporations in Ontario's Electricity Market," *Canadian Tax Journal*, 50, no. 2 (2002): 970-971.

¹⁵ "Opportunities for Municipally Owned Corporations," 972-973.

¹⁶ "Opportunities for Municipally Owned Corporations," 975-976.

Natural gas distribution in Ontario has always been funded through user charges covering all costs. This included debt servicing and provided for a profit subject to rate regulation by the Ontario Energy Board.

3.4 Historic evolution – telecommunications financing

Bell Canada, Canada's first telecom, started in 1903 and had to seek approval of the Board of Railway Commissioners for Canada to change rates for telephone services.

For much of the 20th century, telecom services in Canada were governed by three factors. These included: the status of service providers as common carriers (separation of carrier and content supply functions), the belief that telecom services were natural monopolies, and public interest-oriented regulation by a semi-autonomous regulatory agency (now the CRTC).¹⁷

The rates which telecoms charge are regulated by the CRTC and encompass costs, including debt service and capital expenditure, and a competitive profit margin for carriers like Bell Canada.

3.5 Chapter summary

Electric, telecommunications and natural gas services have had a history of financing all of their current and infrastructure costs through user charges. In contrast, water and wastewater services have had a history of receiving substantial subsidies from senior governments for funding infrastructure. When the subsidies diminished, municipalities then started to impose fees on the development industry which culminated with the introduction of province-wide development charges through legislation in the late 1980s.

The cost of maintaining, rehabilitating and replacing existing water and wastewater infrastructure (SOGR) has been borne by user charges. However, it has only been in recent years, at the prodding of the province, that some municipalities have raised user charges sufficiently in an effort to ensure that the existing infrastructure will be in sound condition over the longer term.

¹⁷ Dwayne Winseck. Canadian Telecommunications: A History and Political Economy of Media Reconvergence. *Canadian Journal of Communication* 22, no. 2 (1997), <http://www.cjc-online.ca/index.php/journal/article/view/995/901>.

4. THE CASE FOR USING DEVELOPMENT CHARGES TO FUND GROWTH-RELATED WATER AND WASTEWATER INFRASTRUCTURE

The financing of growth-related water and wastewater infrastructure through development charges became widespread throughout Ontario after the passage of the first Development Charges Act in 1989. This chapter presents arguments which are used by supporters of the use of development charges by municipalities in Ontario to fund growth-related infrastructure, including water and wastewater services. These arguments are critiqued in Chapter 5.

4.1 The history of development charges in Ontario

Ontario municipalities were faced with an upsurge in demand for housing after World War II.¹⁸ At that time, growth-related infrastructure was funded through municipal borrowing, property taxes and local improvement fees. In response to growing fiscal pressures, municipalities began to enter into subdivision agreements which required developers to pay for on-site hard services, including water and wastewater, and to pay “informal fees” for some off-site services which were called lot levies. Many municipalities charged lot levies under a section of the Planning Act dealing with subdivision agreements until 1989 when the first Development Charges Act was passed.

The Development Charges Act, 1989, gave municipalities the authority to levy fees on new development through development charges. The development charges needed to be tied to the costs of providing infrastructure for growth-related services under the premise that “growth must pay for growth”. Under the currently existing Act, which was passed in 1997, municipalities can levy development charges covering 100% of growth-related water and wastewater infrastructure costs.

4.2 The rationale for imposing development charges

Development charges, from the start, have been regarded as a tool for raising revenues to finance growth-related infrastructure. As Enid Slack succinctly put it:

The main rationale of development charges is simply that growth should pay for itself and not be a burden on existing taxpayers.¹⁹

The implications for water and wastewater financing are straightforward. Whenever growth causes a requirement for additional water and wastewater infrastructure, this growth should pay all the incremental infrastructure costs.

¹⁸ This brief history is taken from Ontario Ministry of Municipal Affairs and Housing, *Development Charges*, a presentation to the Ontario East Municipal Conference, September 14, 2005.

¹⁹ Enid Slack, *Municipal Finance and the Pattern of Urban Growth*, Commentary No. 160, The Urban Papers, (Ottawa: C.D. Howe Institute, 2002), http://www.cdhowe.org/pdf/commentary_160.pdf?N_ID=4?N_ID=4.

There are increasing pressures for development charges to be structured to support the achievement of planning goals in addition to their revenue-raising function. These goals include the encouragement of more compact, dense growth which is regarded as efficient growth in contrast to inefficient, sprawling growth.²⁰

Baumeister summarizes the literature encompassing development charges and their use to support planning goals in the following comments:

Development charges are often cited as an appropriate option to pay for infrastructure related to new growth, because they place the onus on those who require this infrastructure instead of the existing tax base. . . . Researchers have argued that using development charges that reflect the true cost to provide services “can reinforce planning goals by steering development away from high-cost sites to more efficient locations.”²¹

The current Development Act, 1997, allows municipalities to waive or reduce development charges on particular property types in specific areas to achieve planning and economic development goals. In fact, a number of Ontario municipalities are using development charges as an incentive to direct development. These property types and areas include “downtown cores, industrial and commercial areas, and in transit nodes and corridors, where higher-density growth is desired.”²² However, any revenue foregone by giving certain types of properties or areas favourable development charge treatment must be made up through higher property taxes levied on the entire taxpayer base. An illustration of a development charge exemption in the GTA is the City of Toronto’s exemption of new industrial and office development from its development charge.

The Act also allows municipalities to set higher development charges for a specific area of a municipality where engineering studies demonstrate that it is more expensive than the municipal average to build the necessary infrastructure. The Town of Markham in York Region, for example, uses both city-wide development charges and area-specific development charges with the latter varying over numerous areas.

4.3 Incidence – who ultimately pays development charges?

There is a consensus in the economic literature that the development charges which developers and homebuilders pay in the GTA, where they are levied by municipalities over a large geographic area and there has been a strong housing market, are passed on to the buyers of new homes. As Altus Group Economic Consulting stated in 2013:

²⁰ Mia Baumeister. Development Charges across Canada: An Underutilized Growth Management Tool? *IMFG Papers on Municipal Finance and Governance*, No. 9 (2012): 1-33, http://www.munkschool.utoronto.ca/imfg/uploads/201/imfg_no.9_online_june25.pdf.

²¹ Baumeister. Development Charges across Canada, 8.

²² Ontario Ministry of Municipal Affairs and Housing. Development Charges in Ontario, Consultation Document (Toronto: Queen’s Printer for Ontario, 2013) <http://www.mah.gov.on.ca/AssetFactory.aspx?did=10253>.

For the government charges that are paid for by the developer or homebuilder, these costs often get passed on to the end-user of a home, through increased prices or rents, where the market will allow for such increases.²³

Enid Slack and Richard Bird reached a similar conclusion as far back as 1991:

As noted in the previous section, the [development] charges levied in regional housing submarkets in Canada (in the Greater Vancouver Regional District and the Greater Toronto Area, for example) seem to be roughly uniform and to contain an element of ‘what the market will bear’ in addition to any notion of the costs of services. Such charges are likely to be passed on to new-home buyers.²⁴

Pamela Blais arrived at the same conclusion in her 2011 book:

Overall, under most typical market conditions, and in the long term, DCs [development charges] will almost always be passed forward to the final consumer, and this will be reflected in house prices.²⁵

According to James McKellar and David Amborski in a 2009 study of the city of Toronto, house prices rise by even more than the development charges imposed:

Development charges do lead to higher average house prices. Focusing on several recent studies that use reliable data and methodological approaches, the estimated price effects for new homes have mostly pointed to a range between \$1.50 (US) and \$1.70 for a \$1.00 increase in development charges.²⁶

An indirect consequence of the imposition of development charges on new housing is that they cause the level of prices in the existing housing stock to increase as well. This arises when new housing and existing housing are substitutes in the housing marketplace, which is the case in the GTA. Harry Kitchen commented on this in 2002:

²³ Altus Group Economic Consulting, *Government Charges and Fees on New Homes in the Greater Toronto Area*. (North York: Building Industry and Land Development Association, 2013), 2, http://www.bildgta.ca/BILD/uploadedFiles/Media/Releases_2013/Gov_chargesJune6.pdf. This report was prepared for BILD, which represents more than 1,400 members in the land development, homebuilding and renovation industries in the GTA.

²⁴ Enid Slack and Richard Bird, “Financing Urban Growth Through Development Charges,” *Canadian Tax Journal* 39, no. 5 (1991): 1300.

²⁵ Pamela Blais, *Perverse Cities: Hidden Subsidies, Wonk Policy, and Urban Sprawl* (Vancouver: UBC Press, 2010), 99.

²⁶ James McKellar and David Amborski, “Building a Sustainable Toronto,” 7, a discussion paper presented on January 29, 2009, http://www.yorku.ca/yfile/special/building_a_sustainable_toronto.pdf.

Although development charges are levied only on new construction, they may lead to higher prices for existing properties as well. This will happen if newer housing and older housing are substitutes in the housing market: the increase in prices for new housing will increase the demand for older housing and hence raise its selling price as well.²⁷

4.4 Development charges and efficient land use

There is an extensive literature on development charges and the ways in which they can contribute to the efficient use of land. While land efficiency is an economic issue, it is closely related to the planning goals mentioned previously, including encouraging more intensive development in built-up areas and discouraging greenfield development on the fringe of built-up areas.

The position from a theoretical perspective is that a system of development charges and user charges based on the application of the marginal cost principle would best contribute to higher density urban areas and less urban sprawl at the fringe.²⁸ Water and wastewater services are often considered to be excellent candidates for marginal cost pricing since the consumers of the services can be readily identified.

Within the GTA, the marginal cost approach to pricing water and wastewater infrastructure is being broadly applied. This is reflected in the development charges which are much higher in the “905” area code regions for these services than in the city of Toronto which has an existing sewer and wastewater system encompassing the entire municipality. Slack notes that “this differential between city and suburbs is efficient overall – though differences in costs within each municipality are not adequately reflected.”²⁹

4.5 Development charges and equity

Proponents of development charges argue that the Ontario development charge system, particularly for services like water and wastewater services where 100% of growth-related capital expenditures are funded, is equitable. This equity arises because the beneficiaries of the growth-related infrastructure pay all the costs with no financial burden on existing taxpayers in the municipality.

²⁷ Harry Kitchen, “Financing Capital Expenditures,” *Municipal Revenue and Expenditure Issues in Canada*, Canadian Tax Foundation, Toronto, 2002, 197.

²⁸ As an illustration see Slack, Financing Urban Growth, 16-17, and Harry Kitchen, *Financing Water and Sewer Systems in the Greater Toronto Area: What Should be Done?*, 2007, 29-30, <http://www.rccao.com/research/files/HarryKitchenerfinalreport-july9-2007.pdf>.

²⁹ Slack, Financing Urban Growth, 17.

4.6 Chapter summary

Key arguments used by supporters of using development charges to support growth-related infrastructure, including water and wastewater infrastructure, include the following:

- The primary intent of development charges is to fund growth-related infrastructure on the presumption that growth should pay for itself and not impose a financial burden on existing taxpayers in a municipality.
- It is generally acknowledged that development charges are shifted forward by the occupants of newly developed properties. However, there is less mention of the fact that development charges also increase prices of the existing housing stock.
- Equity is achieved as development charges cushion existing municipal taxpayers from bearing growth-related costs by having the occupants of new development paying these costs.
- An element of marginal cost pricing in the setting of development charges encourages efficient land use patterns.

5. CRITIQUING THE CASE FOR USING DEVELOPMENT CHARGES TO FUND GROWTH-RELATED WATER AND WASTEWATER INFRASTRUCTURE

This chapter critiques the arguments, discussed in the previous chapter, which are presented to support the use of development charges to fund growth-related water and wastewater infrastructure.

5.1 Urban growth generates benefits as well as costs

The fundamental argument which is raised in favour of using development charges to fund the expansion of urban infrastructure is that growth should pay its own way and not impose costs on existing property taxpayers who live in the municipality. Property taxes are paid by owner-occupants and tenants who rent housing and non-residential properties.

This proposition is flawed because there is no consideration of the benefits from growth to existing taxpayers. Considering such benefits provides a rationale for existing taxpayers to bear a portion of municipal infrastructure costs that are growth-generated.

An analysis released by the Conference Board of Canada succinctly describes the importance of population growth for overall economic growth:

Population growth is a key driver of overall economic growth. In fact, to put it simply, economic growth is the sum of three components:

- Productivity growth,
- Growth in the capital stock, and
- Labour force growth.

... If you take Canada for example, potential economic growth has been hovering around 2.5 per cent and the contribution to growth of these three components can be roughly distributed in the following way: 1 per cent from productivity, 0.5 per cent from the capital stock and another 1 per cent from the labour force.³⁰

Spending on growth-related public infrastructure like water and wastewater contributes directly to economic growth by increasing the size of the economy's capital stock and indirectly through influencing productivity growth.

³⁰ Mario Lefebvre, "Why Population Growth Matters so Much to Canada's Cities," *Hot Topics in Economics*, blog of the Conference Board of Canada, 28 February 2013, http://www.conferenceboard.ca/economics/hot_eco_topics/default/13-02-28/why_population_growth_matters_so_much_to_canada_s_cities.aspx.

A recent study prepared by the Altus Group Economic Consulting for the Canadian Home Builders' Association stated that the provision of basic urban infrastructure generates many economic, environmental and social benefits:

Infrastructure ensures public health and safety supports local economic development and contributes to the delivery of public services to the community. The benefits from infrastructure are overwhelming community-wide.³¹

A separate Conference Board of Canada study of municipal investments in water and wastewater infrastructure documented the widespread benefits from efficient water and wastewater systems:

Efficient water and wastewater infrastructure systems contribute to public health, are critical components of economic activity for a range of sectors, and can protect the natural environment and human health by treating municipal wastewater effluent.³²

The theoretical underpinning for imposing development charges “that growth pays for growth” lacks credibility given that the expansion of municipal infrastructure contributes to economic growth and the benefits are spread over the larger community including existing property taxpayers.

5.2 Water and wastewater along with electricity distribution are appropriate candidates for full-cost pricing

The beneficiaries of water and wastewater services are readily identifiable. Moreover, their consumption of these services can be readily measured and billed. It is being done now. In this regard water and wastewater services are no different from electricity distribution and comparable services which the private sector provides, including telecommunications and natural gas distribution.

The only real differences between the services are the historical context for water and wastewater pricing that resulted in artificially low pricing for these services, in contrast to electricity and natural gas distribution and telecommunications, and the pricing of private sector businesses in general.

In recent years, the province has been encouraging municipal water and wastewater utilities to fund capital outlays relating to the maintenance of the quality of the existing water and wastewater infrastructure through full-cost pricing. Therefore, there is no reason to treat growth-related infrastructure investment differently from the SOGR infrastructure outlays given the benefits of growth and their distribution.

³¹ Altus Group Economic Consulting, *Basic Urban Infrastructure and its Community-wide Benefits*. (Ottawa: Canadian Home Builders' Association, 2012), v,

<http://www.chba.ca/uploads/policy%20archive/2012/Community%20Wide%20Benefits%20March%202012.pdf>. Basic urban infrastructure is defined as public assets which deliver transportation, water and sewage treatment services to local communities.

³² Len Coad, *Improving Infrastructure Management: Municipal Investments in Water and Wastewater Infrastructure*, (Ottawa: Conference Board of Canada, 2009), 3, <http://www.conferenceboard.ca/e-library/abstract.aspx?did=3291>.

5.3 The planning goal of land use efficiency is being implemented through provincial planning directives

Many people consider that, in a mixed economy like we have in Canada, the role of urban land use planning is to establish goals and a framework for growth with private sector developers and businesses implementing the plans according to their own perceptions on market opportunities and profitability.

Pursuant to the Places to Grow Act, 2005, the Ontario Government passed the Growth Plan for the Greater Golden Horseshoe in 2006.³³ Key goals of this very comprehensive, detailed plan are to create more intense, compact communities and to curb sprawl within the Greater Golden Horseshoe, which is a very large area centred on the GTA. The Growth Plan contains detailed implementation policies for the Province and municipalities to follow in order to achieve these goals. These include setting population and employment growth forecasts for all upper-tier and single-tier municipalities, and requiring a minimum of 40% of all residential development which occurs annually in each of these municipalities to be within built-up areas.

By dictating how much growth municipalities accommodate, and overseeing policies dealing with intensification and with complete communities, the province is affecting relative land prices and the location of residential and non-residential growth within the GTA and beyond. This is all in accordance with the Growth Plan. Under this pervasive provincial planning regime, the types of development that are built must be in accord with the goals of the Growth Plan that promotes land use efficiency.

5.4 Economic efficiency applies to the municipal-wide water and wastewater systems

The proponents of using marginal cost pricing as a planning tool are theoretically correct in asserting that, in a competitive marketplace, marginal cost pricing for urban infrastructure achieves a higher order of economic efficiency than does average cost pricing. However, this applies to the overall water and wastewater system, not just to the expansion of infrastructure to accommodate growth.

The fact is that marginal cost pricing remains largely a theoretical notion. Most businesses apply an average cost model that prices goods and services at levels that cover all costs and generate a targeted profit.

In Ontario's water and wastewater lexicon, average cost pricing is called full-cost recovery pricing (typically without growth-related investment and a targeted profit). The Ontario government is encouraging water and wastewater utilities in the province to apply full-cost pricing (with the proviso

³³ Ontario Ministry of Infrastructure, *Growth Plan for the Greater Golden Horseshoe, 2006* (Office Consolidation, June 2013), (Toronto: Queen's Printer for Ontario, 2013).

that growth-related infrastructure is funded through development charges with no mention of a targeted profit). Full-cost pricing that covers all costs, including growth-related infrastructure expansions, with targeted profits is in fact what is followed for the hydro, natural gas and telecommunication utilities which are examined in this study.

Funding growth-related water and wastewater infrastructure by applying average or full-cost recovery pricing with the cost of growth-related infrastructure included in total costs would yield a reasonable approximation of economic efficient resource allocation in the GTA over the entire water and wastewater system.

5.5 Use of development charges does not encourage environmentally favourable behaviour

Financing growth-related capital expenditure through development charges rather than through user charges results in an underpricing of the cost of providing sewer and wastewater infrastructure to users in a municipality as a whole. Such underpricing then results in an overconsumption of the water and wastewater services which has implications for both the environment and costs as Brubaker suggests:

The widespread underpricing of these services [water and wastewater] has inflated demand, thereby prompting unnecessary environmental impacts, and unnecessarily raising operating costs.³⁴

Bringing growth-related capital costs under the umbrella of user charges would be more environmentally friendly since full-cost pricing promotes the more efficient use of water and wastewater resources. More efficient use of the existing infrastructure would reduce the requirement for additional water and wastewater infrastructure to service new development.

5.6 Equitable treatment of new residents

Even basing the equity argument on the cost side alone is not as straightforward as the development charge proponents assert. Under the development charge system in Ontario, residents and businesses occupying newly constructed development in the GTA bear (a) the full cost of growth-related water and wastewater infrastructure, and (b) a share of the costs of maintaining the quality of the existing aging infrastructure which serves residents and businesses in built up areas. In fact, new development subsidizes existing residents.

A study by the Ontario Ministry of Municipal Affairs calculated that municipalities would need to spend a total of \$34 billion between 2005 and 2019 on their water and wastewater systems, including \$25 billion for capital renewal of existing systems and \$9 billion to meet projected growth.³⁵ Equity

³⁴ Elizabeth Brubaker, *A Bridge Over Troubled Waters: Alternative Financing and Delivery of Water and Wastewater Services*, Commentary No. 330, The Water Series, (Toronto: C.D. Howe Institute, 2011), 4, http://www.cdhowe.org/pdf/Commentary_330.pdf.

³⁵ Brubaker, *A Bridge Over Troubled Waters*, 4-5.

on the cost side alone would require that residents and businesses in new development not share the capital cost relating to the existing infrastructure which, for the entire municipal sector, is much larger than growth-related infrastructure requirements.

Under Ontario's current development charge system, the occupants of new development will be paying a pro rata share of the \$25 billion, which benefits existing development, as well as paying for the \$9 billion in growth-related water and wastewater infrastructure.

5.7 Development charges diminish housing affordability

As shown in Appendix A, development charges which are levied for growth-related sewer and water infrastructure are significant costs which developers pass on to occupants of new development. Removing the funding of growth-related sewer and water infrastructure from development charges has the potential to reduce the costs of new single-detached homes in the GTA by as much as \$26,000 per home.

The reasoning behind the expectation of a pass through of the reduction of development charges to the occupants of new development is described in Appendix B. Briefly, just as higher development charges are passed forward to the occupants of new housing in a competitive, robust marketplace like the GTA in the form of higher prices, the same process in reverse will result in downward pressure on prices when development charges decline.

5.8 Chapter summary

Financing growth-related water and wastewater infrastructure with user charges rather than development charges has a number of economic benefits:

- It would not tie the funding of growth-related infrastructure to the flawed proposition that urban growth causes only infrastructure costs and generates no benefits. In fact, growth generates benefits which accrue to both existing and new residents.
- Funding growth-related water and wastewater infrastructure through user charges would make this financing the same as financing for other utilities such as electricity, natural gas and telecommunications and, indeed, the broader business community in Canada.
- Applying full-cost recovery pricing to water and wastewater services in the GTA with growth-related infrastructure outlays included in costs would result in greater economic efficiency. Water usage would decline from its current level under the present system with development charges, with a concomitant reduced need for new capacity because of an overall drop in water and wastewater consumption.

- Development charges for water and wastewater purposes would lower the cost base of building new homes. In a competitive housing market such as the GTA/H these lower costs in turn would ultimately be reflected in lower end prices.³⁶

Under the pervasive provincial planning regime for the Greater Golden Horseshoe, the types of development that are built will need to be in accordance with the goals of the Growth Plan to enhance the efficient use of land in built up areas. There is no need to compromise development charge revenues by configuring them to promote the goals of more compact and dense communities.

³⁶ Appendix B describes the reasoning behind this conclusion.

6. CONCLUSION AND RECOMMENDATIONS

6.1 Conclusion

The analysis and findings of this study demonstrate that there is no convincing basis for funding growth-related infrastructure through development charges and funding outlays for the maintenance, rehabilitation, and replacement of the existing municipal-wide infrastructure through user charges. Rather, both sets of capital improvements should be funded through user charges.

6.2 Recommendations

Based upon the findings of the research done for this report, I recommend that growth-related water and wastewater infrastructure be funded with user charges rather than development charges, and that this change be phased in over a period of five years. The Development Charges Act should be amended to disallow the funding of growth-related water and wastewater infrastructure through development charges after five years.

I recommend that municipalities establish independent utilities to fund and operate water and wastewater services on a business basis as do electrical and private sector utilities which operate in the province. This would require that water and wastewater utilities register under Ontario's Business Corporations Act as municipal electricity providers were required to do under Ontario's Energy Competition Act, 1998.

All capital outlays would be financed through user charges or through debt where servicing is funded through user fees. The new water and wastewater utilities should have the power to issue debt based upon the individual utility's financial situation separate from a municipality's debt. The board of directors of the new utilities should be drawn largely from the business community with municipal politicians and staff playing a limited role.

I also recommend that the province appoint an advisory committee to provide advice on the implementation of the user charge. The committee should include representation from municipalities, the development/building community, and the broader business community.

6.3 Impact of recommendations on user charges for existing and new residents

The impact of shifting the financing of growth-related water and wastewater infrastructure investment from development charges to user charges will vary depending on the current mix of growth-related infrastructure investment, and investment in the existing infrastructure network in the municipality. The impacts on two municipalities are examined here – the City of Toronto where the bulk of its capital expenditures for water and wastewater is spent on maintaining the existing system, and the Halton Region which is experiencing considerable growth.

For the city of Toronto, the impact of the switch from development charges to user charges on water and wastewater customers will be inconsequential as little of the City's infrastructure investments which have been planned for the next decade are growth-related. For 2014, for instance, just 6.5% of the budgeted \$476.7 million of capital outlays for water and wastewater investment are categorized as being for growth – 52.8% are for state-of-good-repair and the remaining 40.7% are for service improvements, health and safety or are legislated expenditures. These latter categories benefit all water and wastewater users. The 2014 budget increases user charges by a sizeable 9% primarily to deal with the backlog of infrastructure investments required to maintain, rehabilitate and replace the existing systems.

For the Halton Region, the top section of Figure 4 presents the region's projected annual increases in Halton's water and wastewater services for the 10-year budget period of 2014 through 2023. These projected increases rely on development charges to fund growth-related infrastructure. The bottom section of Figure 4 presents estimates made in this study of the annual increase if the growth-related outlays are funded through user charges instead of development charges.

Under its 10-year operating budget, Halton Region is projecting annual rate increases of 4.8% to 5.2% in the water and wastewater budget with development charges. The largest portion of the increase is to fund the maintenance, rehabilitation and replacement of existing infrastructure. Shifting the funding for growth-related infrastructure from development charges to user charges would double the annual increases in user fees to the 9.5% to 10.4% range, according to estimates prepared by the author.

It is true that this scenario would have existing users of water and wastewater services paying a share of the growth-related capital expenditures. It is also true that the users who occupy the new development would pay a portion of the capital costs of the state-of-good-repair programs for the existing infrastructure. These capital expenditures are projected to rise from 33% of all water and wastewater capital outlays in 2014 to 49% by the year 2023.³⁷

³⁷ Halton Region, *Rate Budget Overview 2014*, November 15, 2013, p. 193 and estimates by author.

**Figure 4:
Estimated Impact on User Charge Increases of Funding Growth-Related Water and Wastewater Infrastructure Through User Charges, Halton Region, 2014-2023¹**

Water and Wastewater Budget with Development Charges	Annual Increase	
	%	
Region's Projected Increase in Annual User Charges, 2014-2023:		
Operations/growth related infrastructure	1.6	- 1.7
State-of-good-repair capital program	3.2	- 3.5
Total increase	4.8	- 5.2

Water and Wastewater Budget without Development Charges	\$ Millions	Percent²
Region's Projected Capital Expenditures, 2014-2023		
State-of-good-repair	650.5	43
Growth-related	865.8	57
Total	1,516.30	100
Total as a ratio of state-of-good-repair expenditure	2.48	

Author's Estimated Annual Increases in User Charges with Growth-Related Capital Expenditures Funded with User Charges, 2014-2023	Annual Increase	
State-of-good-repair % increase	3.2	- 3.5
State-of-good-repair % increase multiplied by 2.48 ³	7.9	- 8.7
Total increase for capital expenditures operations	1.6	- 1.7
Total Increase	9.5	- 10.4

¹ Halton Region, Rate Budget Overview 2014, November 15, 2013, 187 and 195, and estimates by author.

² Some percentages do not total 100% due to rounding error

³ Estimate of rate increase to finance the capital works program assuming no development charges revenue derived by applying the ratio of total capital expenditures to state-of-good-repair capital expenditures to the percent annual increase in user charge for the state-of-good-repair capital program.

Source: Halton Region, *Rate Budget Overview 2014*, November 15, 2013, pp. 187 and 195 and estimates by author.

APPENDIX A

DEVELOPMENT CHARGES AND THE PRICE OF NEW HOUSING IN THE GTA

This appendix provides insight into the total charges and fees which all levels of governments levy on new housing in relation to the price of new housing in the GTA, the role of development charges in the total charges and fees which are applied to housing, and the importance of development charges which are levied for the purpose of funding growth-related water and wastewater infrastructure.

The use of development charges by municipal water and wastewater utilities is a topic worthy of study since these development charges are significant and are typically passed on to the purchasers of new housing in the form of higher prices. This negatively impacts housing affordability.³⁸

Government charges and fees represent a sizeable component of the price of new housing

Statistics which are referenced in this and the next section are gleaned from a recent report which Altus Group Economic Consulting (Altus) prepared for the Building Industry and Land Development Association (BILD).³⁹ The Altus report calculates the fees and charges which would be imposed on a hypothetical subdivision with 500 single-detached homes and on a new high-rise apartment development with 500 suites which are assumed to be built in each of six municipalities within or adjacent to the Greater Toronto Area (GTA). The charges and fees being considered are levied on the developers, builders and purchasers of new homes in the GTA by lower-tier and upper-tier municipalities, school boards, conservation authorities, and the Ontario and federal governments and their agencies.⁴⁰ These fees and charges include development charges, municipal approvals and permits, hydro/utility fees, parkland dedication/cash-in-lieu, public art contributions, Section 37, Tarion enrollment fee, CMHC mortgage insurance, Harmonized Sales Tax (less eligible rebates) and land transfer taxes.

For new single-family homes, Altus found that the average total government charges/fees as at April 2013 are roughly \$122,811 in the five GTA municipalities which were surveyed or about 22.5% of the average price of a new single-detached home. Government charges/fees were highest in the three regions north and west of the city of Toronto (averaging about \$140,500) (see Figure A-1).⁴¹ They were considerably lower in the city of Toronto and Durham Region.

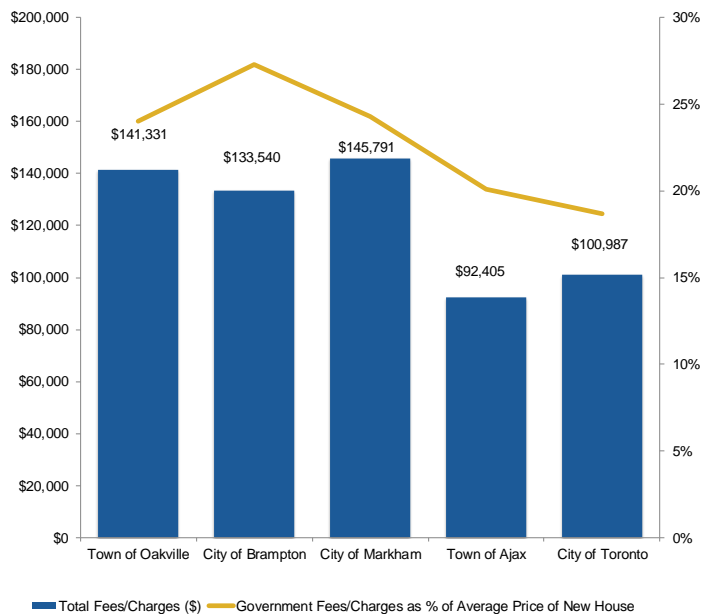
³⁸ The role of development charges in the costs of new commercial and industrial development is also an important topic but is outside the scope of this study.

³⁹ *Altus Group Economic Consulting, Government Charges and Fees on New Homes in the Greater Toronto Area*. (North York: Building Industry and Land Development Association, 2013)

⁴⁰ The discussion here excludes the Town of Bradford West Gwillimbury which is Simcoe County just beyond the border of York Region and, therefore, outside the GTA.

⁴¹ Oakville is located in Halton Region, Brampton is in Peel Region, Markham is in York Region, and Ajax is in Durham Region.

Figure A-1:
Total Government Fees/Charges Levied on New Single-Detached Houses in the GTA, April 2013

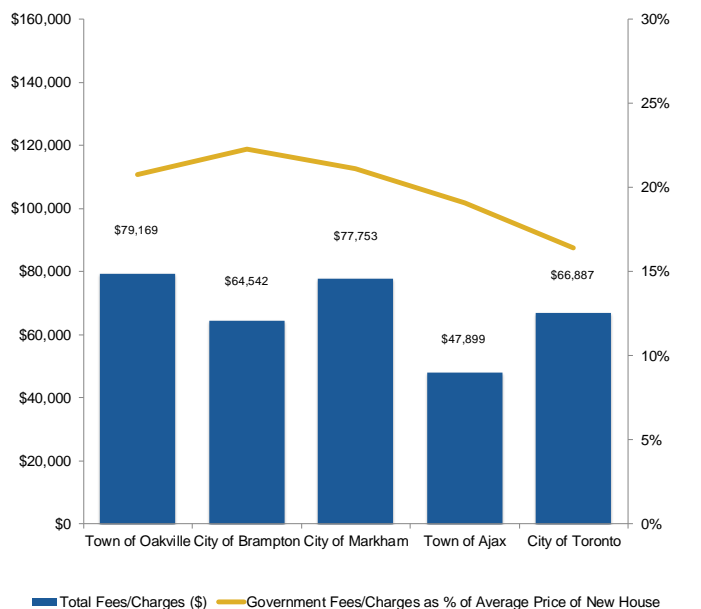


Source: Altus Group Economic Consulting, *Government Charges and Fees on New Homes in the Greater Toronto Area*, (North York: Building Industry and Land Development Association, 2013).

Altus calculated, and Figure A-2 shows, that the average total government charges/fees for new high-rise condominium apartments in the GTA municipalities were about \$67,000 per unit, or roughly 20% of the average price for a new apartment. This was just below the percentage share for single-detached homes. The average total fees/charges were highest in Halton and York Regions, followed by Peel Region and the city of Toronto. They were lowest in Durham Region.

Development charges are a significant component of government charges and fees

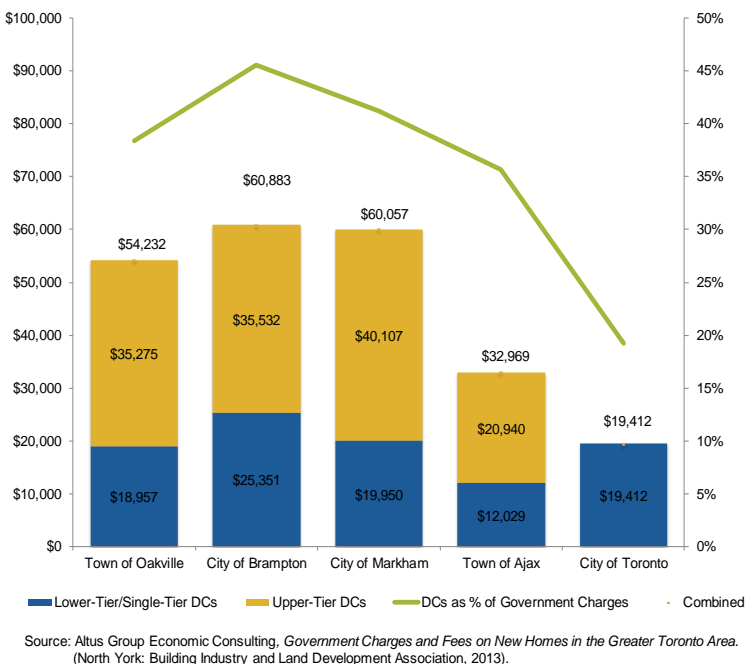
Figure A-2:
Total Government Fees/Charges Levied on New High-Rise Condominium Apartments in the GTA, April 2013



Source: Altus Group Economic Consulting, *Government Charges and Fees on New Homes in the Greater Toronto Area*, (North York: Building Industry and Land Development Association, 2013).

Development charges which are imposed by upper tier/single-tier and lower tier municipalities represent a sizeable component of total charges/fees in the GTA, particularly for the regions north and west of the city of Toronto where they were in the \$55,000 - \$60,000 range for new single-detached homes in April 2013. Development charges were

**Figure A-3:
Total Development Charges Levied on New
Single-Detached Houses in the GTA, April 2013**



considerably lower in Durham Region and the city of Toronto.⁴²

As Figure A-3 shows, development charges ranged from 19% to 27% of the average total fees/charges on new single-detached homes in the five GTA municipalities.

The total development charges which the municipalities levy were the single largest component of charges/fees levied by all levels of government in three of the GTA municipalities examined by Altus (in the regions north and west of the city of Toronto). In Ajax, development charges were much lower than in the other regions, and about the same as Harmonized Sales Tax revenue. Development charges were the lowest by far in the city of Toronto.⁴³

Development charges for water and wastewater infrastructure are a significant component of total development charges

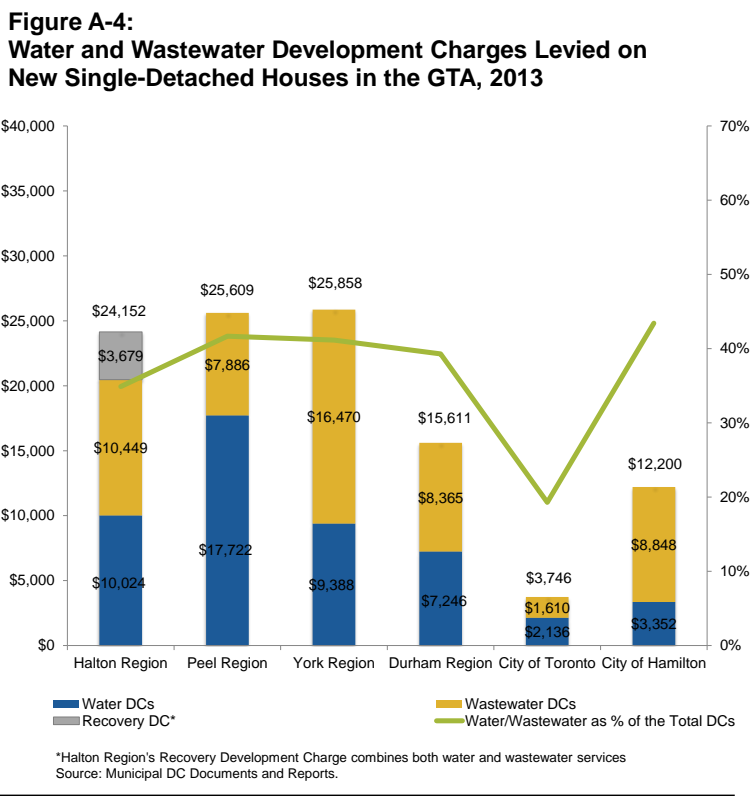
Development charges for water and wastewater in the GTA are levied by regional municipalities or, in the case of the cities of Toronto and Hamilton, single tier municipalities.⁴⁴ As Figure A-4 shows, calculations made from the latest development charges information which were available from municipalities (July 2014) demonstrate that the development charges for water and wastewater are highest in Halton, Peel and York Regions at about \$24,000-\$26,000. These development charges are in the \$10,000-\$16,000 range in the City of Hamilton and Durham Region and a low \$5,400 in

⁴² Education and Go Transit development charges are not included in the development charges considered in this section since they are not imposed by municipalities.

⁴³ The low development charges in the City of Toronto reflect the fact that the City is fully serviced with infrastructure, and growth occurs through redevelopment rather than on greenfield lands.

⁴⁴ In York Region, local municipalities buy water and sewer capacity from the Region and are responsible for local distribution. The local municipal development charges are small in relation to York Region's. They are excluded here.

the City of Toronto where new development uses the existing water and wastewater infrastructure capacity.



Summary

The drop in costs of developing new single-detached houses in selected GTA municipalities if the current water/wastewater development charges were eliminated would be as follows:

Town of Oakville, Halton Region = \$24,151

Town of Markham, York Region = \$26,039

City of Brampton, Peel Region = \$25,608

Town of Ajax, Durham Region = \$15,720

City of Hamilton = \$10,150

City of Toronto = \$5,358

Removing development charges for water and wastewater would be expected to have a notable impact on the price of new housing in each of the municipalities which are considered. The impacts would be most pronounced for lower-density housing in the Regions west and north of the city of Toronto.

APPENDIX B

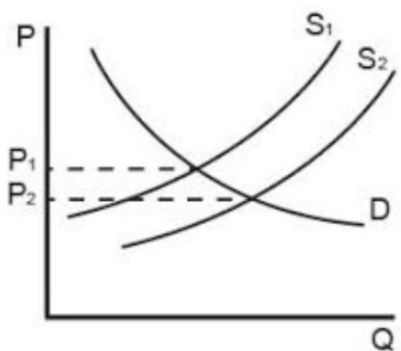
HOUSING PRICE REDUCTIONS RESULTING FROM REMOVING GROWTH-RELATED WATER AND WASTEWATER INFRASTRUCTURE OUTLAYS FROM DEVELOPMENT CHARGES IN THE GTA⁴⁵

This appendix provides an explanation of the way in which a reduction in development charges resulting from the replacement of development charges by user charges for the funding of growth-related infrastructure would, over time, impact the price of housing in the relevant housing market. This analysis is necessary to dispel the view that may be articulated by those who do not understand economics that a reduction in development charges would simply lead to windfall profits for developers and homebuilders. This is not the case. It is possible that there could be some windfall profits in the short term as the water and wastewater development charges are being phased out, but in the longer term the price of housing will fall as a result of the reductions in development charges.

It is important to understand two economic realities about the housing market in the GTA. First, there is a competitive market in the area. Second, in a competitive market, some developers/builders will reduce their prices to reflect their lower costs and gain sales. Other developers/builders will need to match these lower prices or face a loss of sales. This fact leads to the reality that there will be price adjustment over time as new housing which reflects the lower development charges is

brought on the market.

**Figure A-5:
Impact of Reduced Development Charges
on the Supply and Price of New Housing**



The market price for housing, like all commodities in a competitive market, is determined by the intersection of the supply and demand curves. The supply curve reflects what producers are willing to supply at various prices. The level and shape of the supply curve is determined by the cost of the factor inputs to produce the commodity, land, labour and capital as well other costs in the production process. For housing this includes taxes, charges and exactions which include development charges.

⁴⁵ The author thanks Professor David Amborski, Director, Centre for Urban Research and Land Development for preparing the analysis described in this appendix.

Consequently, when development charges are decreased, the result is a downward shift in the supply curve which reflects reduced costs. This leads to a new intersection with the demand curve at a lower price to reflect a new market price.

In the short run the developer may be able to capture windfall profits but over time the competitive market will adjust to reflect the new production cost structure.

Observers of the market and prices may argue that the price never really is observed to decrease in the longer run. This may be the case if there is inflation, and cost increases in the other factors of production, and/or an increase in demand (upward shift in the demand curve). In these instances there may not be an observed decrease in prices. Rather, in this case, the saving from the reduction in development charges may result in lower increases in the price of housing over time than would occur if the development charges had not been reduced.