

Water Rate Restructuring – Results of Public Consultation and Recommended Rate Structure

Date:	May 14, 2007
To:	Executive Committee
From:	Joseph P. Pennachetti, Deputy City Manager and Chief Financial Officer Lou Di Gironimo, General Manager, Toronto Water
Wards:	All Wards
Reference Number:	P:\2007\Internal Services\Cf\ec07024Cf – et (AFS #3419)

SUMMARY

This report presents a review of current practices and rate structures respecting the water and wastewater program, and an analysis of a number of options to provide for a new water rate structure that is fairer, transparent and conducive to improving the City's industrial and manufacturing base.

The current seven-block volume based rate structure, a product of amalgamation, is complex, benefits few consumers without any real focus, and results in similar consumers paying different rates.

A comparison of the water and wastewater rates and rate structures of the surrounding municipalities and other major cities showed water and wastewater costs to be generally lower in Toronto for residential customers. However, such is not the case for large-volume users, where this difference becomes more evident at higher consumptions. The City's larger industrial employers would find costs to be as much as 20%-25% lower in Peel, Durham, Vaughan and Hamilton, and 35% lower in London, Ontario.

Guiding principles adopted for this rate structure review during the consultative process included: rates should be equitable across customer sectors; rates should encourage water efficiency; rates should position the city competitively; the rate structure should be simple and transparent; rates should ensure the sustainability of the water system; and, rates must meet regulatory requirements.

The recommended option recognizes that manufacturing and process needs for water is different than domestic needs. It provides for a single rate for all users, with a second

available block for industrial/manufacturing consumption on the volumes above 6,000 m³ per year. By being focused, this option is intended to assist as many industrial and manufacturing employers as possible and not necessarily just high volume users and industrial process water users must be in compliance with the City's sewer-use by-law. This option was most widely supported at the public and individual meetings.

This report recommends that the new structure be adopted, commencing January 1, 2008, with the second available rate block for industrial/manufacturing consumption on the volumes above 6,000 m³ per year to be initially set at a rate reduction of 20%, and with further reduction to be phased-in at a rate of one-third of any increase in the general first block until the target of a 30% reduction in the process block two rate is achieved.

RECOMMENDATIONS

The Deputy City Manager and Chief Financial Officer and the General Manager of Toronto Water recommend to Council that:

1. Council approve in principle the use of water pricing as an economic development tool for the purpose of retaining and supporting the growth of existing businesses using water for processing purposes, ensuring their competitiveness with other jurisdictions and attracting new manufacturing businesses to the City;
2. Council endorse a single domestic-use rate structure for all water consumers, with a second lower process-use rate available for properties in the Industrial tax class applicable on their volume of water consumed above 6,000 m³/yr (500 m³/mo), as embodied under Option (3) in this report;
3. the second lower block process-use rate for properties in the Industrial tax class applicable on volume of water consumed above 6,000 m³/yr (500 m³/mo), referred to in recommendation (2) above, be:
 - a. initially set at a rate reflecting a 20% reduction from the general first block rate, effective commencing January 1, 2008, and
 - b. a further reduction be phased-in at a rate of one-third of any increase in the general first domestic-use block rate until the target of a 30% reduction in the process block two rate is achieved;
4. to be eligible for the industrial process block two rate, industrial process water users must be in compliance with the City's sewer-use by-law to the satisfaction of the General Manager of Toronto Water;
5. a program to provide for a rebate on the water bill be adopted for low income seniors and low income disabled persons, homeowners who meet the eligibility

criteria under the City's property tax relief programs for low income seniors and low income disabled persons, and further:

- a. the rebate be initially set at a rate reflecting a 20% reduction from the general first block rate, effective commencing July 1, 2008; and,
 - b. a further reduction be phased-in at a rate of one-third of any increase in the general first domestic-use block rate until the target of a 30% reduction from the general first block rate is achieved; and,
 - c. to be eligible, the property must be in the residential class and must be metered; and,
 - d. the rebate shall only apply if the household consumption is less than 300 cubic metres per year, prorated for the billing period; and,
 - e. the Deputy City Manager and Chief Financial Officer, in consultation with the City Solicitor, report back, as part of the 2008 Water and Wastewater Program Budget and Rate Setting Process, on any details necessary to commence implementation of this rebate program commencing in 2008;
6. the Deputy City Manager and Chief Financial Officer, in consultation with the Deputy City Manager responsible for Toronto Water, report back, as part of the 2008 Water and Wastewater Program Budget and Rate Setting Process, on any details necessary to commence implementation of this rate structuring in 2008;
 7. the General Manager of Toronto Water, in consultation with the Deputy City Manager and Chief Financial Officer, develop and implement further water conservation programs, as may be deemed appropriate as part of the annual review of the City's Water Efficiency Plan, for residential and business domestic water users in concert with the climate change initiative under the direction of the Deputy City Manager Richard Butts;
 8. the General Manager of Toronto Water, in consultation with the Deputy City Manager and Chief Financial Officer, be directed to further consult with stakeholders for the purpose of identifying fixed-cost elements of the Water and Wastewater program that would be appropriate to charge as a fixed-charge on the water rate bill, and to report back to Council as part of the 2009 Water and Wastewater Program Budget and Rate Setting Process, on any modifications necessary to implement such a charge;
 9. the General Manager of Toronto Water, in consultation with the Deputy City Manager and Chief Financial Officer and City Solicitor, investigate the legal and financial implications of fixed term contracts with large water consumers, and to report back to the appropriate standing committee on the feasibility of such contracts;
 10. the provision for providing a rebate to eligible consumers for the portion of water not returned to the City's sewer system be amended by updating the applicable

rebate rate to be set at 57% of the retail combined water and sewer service rate applicable to the consumer, effective January 1, 2008; and,

11. the appropriate City Officials be authorized and directed to take the necessary action to give effect thereto.

Financial Impact

The strategy recommended in this report continues to provide full funding for the water and wastewater operations through the water and sewer rates and is revenue neutral for the City. As such, the property tax supported budget is not impacted. The recommended rate strategy described under Option (3) of this report provides for a simpler, more equitable, transparent, and fairer structure for the City, encourages water conservation, and ensures competitive pricing for the City’s manufacturing base.

The following chart illustrates the anticipated average annual effects of the strategy recommended in this report across the following users.

Type of user	Annual Impact	
Avg. Residential 315 m ³	\$13.36	2.9%
Small Retail 1,000 m ³	\$17.40	1.2%
Large Commercial 250,000 m ³	\$3,361	0.9%
Industrial 250,000 m ³	(\$72,548)	-19.9%
Large Industrial 1,000,000 m ³	(\$238,459)	-17.0%

It should be emphasized that, while these recommendations would shift a somewhat greater cost burden onto the residential users, the potential loss of industrial process water users out of the City would have essentially the same effect of shifting of the cost burden onto residential users.

DECISION HISTORY

At its meeting on December 8, 9 and 12, 2005, during consideration Clause 2 of Report No. 12 of the Policy and Finance Committee headed “2006 Water and Wastewater Rate Increase and Rate Projections for 2007-2015”, Council directed that:

“the Deputy City Manager and Chief Financial Officer and the Deputy City Manager responsible for Toronto Water be requested to review the water and wastewater rate structure, consult with all stakeholders, and report to the Works Committee by July 2006”.

A copy of this report can be viewed at:

<http://www.toronto.ca/legdocs/2005/agendas/council/cc051208/pof12rpt/cl002.pdf>

ISSUE BACKGROUND

Overview:

In 1999, the newly amalgamated City of Toronto adopted, and implemented by way of a four-year phase-in, a seven-block water rate structure (Clause 25 of the Strategic Policies and Finance Committee, as adopted by Council April 26, 1999).

<http://www.toronto.ca/legdocs/1999/agendas/council/cc/cc990426/sp8rpt/cl001.htm>

This block rate structure provides for a lower rate at low consumption (below 20 m³ per month), with the intention of assisting lone persons and senior households, followed by an escalating rate as consumption increases, and then followed by a declining rate for large volume consumers (greater than 240,000 m³ year), with the intention of offering an economically competitive rate for consumers of large volumes of water.

At that time, the seven-block rate structure was designed to attempt to mitigate rate impacts arising from amalgamation and harmonization, to the extent possible, across consumer types and across former municipalities, and to result in a uniform rate structure for the new City of Toronto once fully phased-in. Because of the significant differences in rate structures of the former municipalities, the seven-block structure was determined to result in lesser impacts than a simpler or single rate structure during the harmonization process. Differences in the data contained in the six billing systems of the former municipalities were also a limiting factor in the design of a rate structure at that time. The intention was that the rate structure would be reviewed once the harmonization process was completed.

For several years, numerous water consumers in the City of Toronto have appeared before Committee and have met with staff to raise issues related to, amongst other things, the block rate water rate structure. These concerns include:

- similar customers are paying different rates;
- the differences in the charges between small and large volume consumers is getting bigger over time;
- the current 7-block rate structure is hard to understand;
- the volume based block structure results in large volume consumers bearing a disproportionate share of certain costs; and,
- the current rate structure does not position the City competitively, specifically in regards to its manufacturing sector.

Current Pricing Implications:

The basis of the current pricing structure is the original 1999 block rates, as escalated to meet revenue requirements by the Council approved rate increases since that time. Since

1999, the water and wastewater program budget has been increased by a total of 55% (1999 – 2.5%, 2000 – 2%, 2001 – 2.1%, 2002 – 9%, 2003 – 9%, 2004 – 6%, 2005 – 6%, and 2006 – 9%). Chart 1 below shows the 1999 block rates in comparison with the current 2006 block rates.

Chart 1 - Block Rate Pricing Structure (combined water/wastewater service rate)

	1999 Price \$/m ³	2006 Price \$/m ³	% Increase '99 vs '06	No. Customers (2006)	% Customers Utilizing Block	% of Volume
block1 first 240 m ³	0.9354	1.4206	51.9%	142,143	36.7%	6.1%
block2 next 5,760 m ³	0.9738	1.4684	50.8%	238,184	61.5%	33.6%
block3 next 6,000 m ³	0.9677	1.4805	53.0%	2,695	0.7%	6.0%
block4 next 48,000 m ³	0.9476	1.4659	54.7%	3,496	0.9%	25.0%
block5 next 60,000 m ³	0.9181	1.4549	58.5%	674	0.2%	14.7%
block6 next 120,000 m ³	0.8585	1.4671	70.9%	176	0.05%	7.4%
block7 Amounts over 240,000 m ³	0.8060	1.3845	71.8%	52	0.01%	7.2%
Wtd. Avg. Rate	0.9416	1.4541	54.4%	387,420	100.0%	100.0%

From Chart 1, it can be seen that the effective rate charged to lower volume users (i.e. predominantly residential homes) increased by 52% between 1999 and 2006 (as compared to the budget increase of 55%). In contrast, the effective rate charged to the City's highest volume users (i.e. predominantly large industrial) increased by 72% over the same period. This is partly due to a loss of industrial/manufacturing properties in the highest block, and that to maintain the revenue in that block from fewer customers required this block's rate to increase faster.

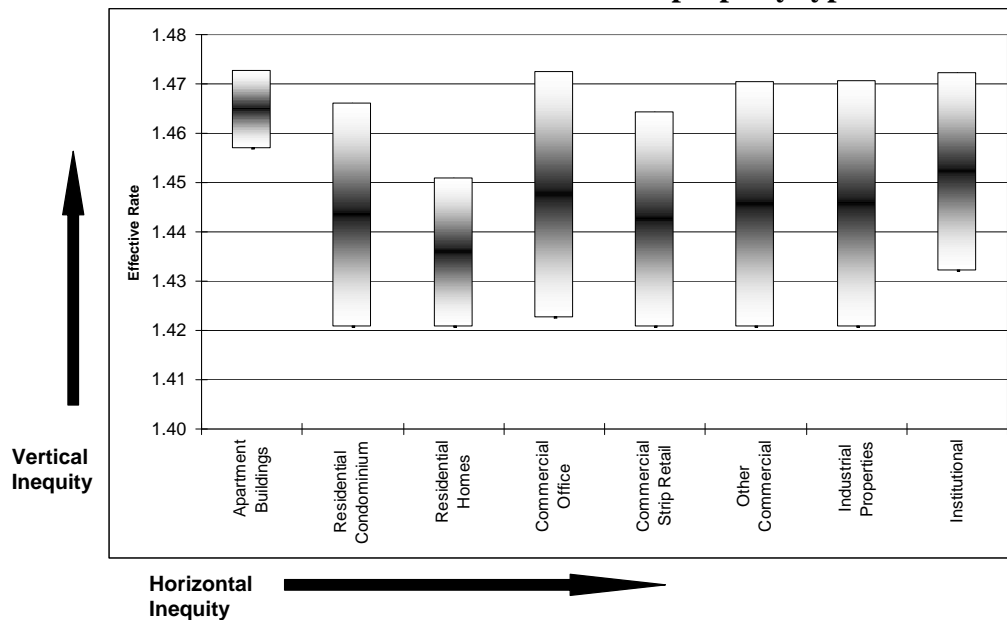
Put another way, it can also be seen that in 1999, the lowest block consumption was charged a rate of \$0.9354/m³, and the highest block consumption a rate of \$0.8060/m³, which was in effect a discount of 14% designed to attempt to offer a competitive rate for high volume users at that time. By 2006, this discount for high volume users has been reduced to 2.5% (\$1.3845/m³ vs. \$1.4206/m³), diminishing the intent of offering a competitive rate to large volume users as originally conceptualized.

Industries not being able to compete, not only with global competitors, but also with sister production facilities in the same organization for production allocation, is a concern commonly cited by the City's large industrial water consumers, for whom water is a necessary input into their process and/or products. Such was a factor in the transfer of a production facility of a large beverage producer from Toronto to London, Ontario. Staff estimate that the loss of *just one* large industrial consumer would result in a rate increase of over 2% for other consumers in order to make up for the lost revenue, as was the case in the above real example.

Another concern expressed by stakeholders is that the volume based block rate structure is resulting in differences in the effective rates being paid between similar property types

and between different property types. Chart 2 illustrates this point. For example, apartment buildings, which generally are bulk metered with a single property meter for all the units within the building, typically fall in the middle of the City's block rate structure which results in the highest effective rate on average for apartment dwellers. Only a few of the City's largest apartments benefit from the lower rate of block 7. In comparison, large condominiums and single family homes, which arguably have a similar domestic use of water, pay lower effective rates on average than their rental counterparts. From Chart 2, a similar spread can be observed amongst commercial, industrial and institutional consumers.

Chart 2 – Effective rates (\$/m³) paid between similar and between different property types



A third concern expressed by certain stakeholders was that a consequence of using a rate structure that is solely based on volume (Toronto currently has no fixed charge component in the water and sewage rates) is that high volume consumers will bear a disproportionate share of certain costs. Costs such as meter reading and billing or corporate overheads are examples of fixed costs, and the wet weather flow management master plan is an example of a significant capital cost, that are not directly related to one's consumption of water. This point is best illustrated by way of example as shown in Chart 3. From the example of the 2006 Water and Wastewater budget of \$610 million, meter reading and billing make up 2.1% of the budget (\$13.1 million), certain corporate overheads make up 3.7%, and so forth. Similarly, the unit cost of water of \$1.4541 per cubic metre is notionally made up of 3.12 cents/m³ for meter reading, 5.34 cents/m³ for the corporate overheads, and so forth.

From Chart 3, the average household consuming 315 m³/year would be notionally contributing \$9.77 towards meter reading and billing component of the budget, \$16.71 towards those corporate overheads, and so forth. In contrast, from the example, the large

industrial customer would be contributing \$30,066 towards meter reading and billing, \$51,400 towards those corporate overheads, and so forth. The point raised by large volume stakeholders is that it does not cost any more (certainly not 300-times more) to read their meters or send them bills than it does for a homeowner. The same goes for the other fixed costs.

Chart 3 – Illustration of Contribution from Water Bill to Water and Wastewater Program Budget Requirements

Water and Wastewater Budget Breakdown				Contribution from Water Bill	
	Budget	Water Rate (\$ per m ³)	%	Average Household (@ 315 m ³ /y)	Large Industrial (@ 1,000,000 m ³ /y)
Total '06 Budget	\$610.0 M	1.4541 /m ³	100%	\$455.00	\$1,400,000
broken down as follows:					
Basic Production Cost	\$524.5	1.2503	86%	\$391.23	\$1,203,770
1. Wet Weather Flow Mgmt. Prg. (at full roll out)	\$50.0	0.1192	8.2%	\$37.30	\$114,754
2. Corporate Overhead (Facilities, legal, etc.)	\$22.4	0.0534	3.7%	\$16.71	\$51,410
3. Meter Reading & Billing	\$13.1	0.0312	2.1%	\$9.77	\$30,066
Subtotal of 1,2,3	\$85.5	0.2038	14%	\$63.77	\$196,230
	\$610.0 M	1.4541 /m ³	100%	\$455.00	\$1,400,000

This concern demonstrates a specific inequity of the current structure. Some stakeholders suggested that one way to help assure a more equitable distribution of costs to all users is to have the fixed overhead costs borne by each user in proportion to their contribution to the cost. However, this latter point is easier said than done. To determine each user’s contribution towards specific costs would require a level of detail in tracking activity and cost that does not currently exist, and in many instances would require subjective allocations of cost. For these reasons, staff are not recommending separation of such fixed costs at this time. Rather, staff feel it more appropriate that there be further consultation to identify appropriate components of the water and wastewater program costs that may be suitable for separating out of the volume based rate, and on the feasibility for incorporating these components, if any, as a fixed charge on the water bill.

Another concern expressed by certain stakeholders, particularly the industrial and manufacturing sector, is that the current rate structure, together with the City’s rate increase projections, disadvantages them vis-à-vis competitors in other jurisdictions and even with their ‘sister’ plants competing for production capacity. This issue is discussed further in the Section 4 “Comparison of Water Rates and Structures of Other Jurisdictions”.

Comments

Consultation Process

As previously noted, a number of water consumers in the City of Toronto have appeared before Committee and have met with staff to raise issues related to, amongst other things, the block rate water rate structure. Subsequent to Councils' direction in December 2005, staff contacted these various stakeholders to identify, on a preliminary basis, the major issues arising from the existing rate structure. There has seldom been a better or more promising time for the City and other stakeholders to work together to solve these long-standing issues concerning Toronto's long-term sustainability and competitiveness, and for the City to review its customer's needs.

During February through early May 2006, staff met with 27 interested groups and organizations to identify initial issues. These stakeholders represented a wide cross section of interests, including: Ratepayer and Tenant Associations and Toronto Community Housing Corporation, Business Improvement Areas, Non-Governmental and Environmental Organizations, the Toronto Industry Network, Federation of Independent Businesses, School Boards, Hospital Associations, and Ministry of Agriculture and Food.

These initial meetings provided an opportunity for staff to formalize a preliminary list of issues, and to develop a framework for broader public consultation.

In order to engage the broader stakeholders for their input on the City's water rate structure and preliminary issues, five public workshops were held in May and June 2006. The public meetings took place at City Hall (2 events), and the Etobicoke, North York and Scarborough Civic Centres. These meetings were promoted by way of advertisement in community newspapers across the City, and through an advertisement in the Toronto Star newspaper. Direct mailings were also made to approximately 540 residential ratepayers and tenant groups. Approximately 25 participants and stakeholder representatives attended at these workshops, representing a good cross-section of the City's water customers, including residential and tenant ratepayer groups. In addition to this, staff have also held further additional meetings with interested business and industry associations at their request.

A City staff team consisting of representatives from Corporate Finance, Toronto Water, Economic Development, Revenue Services, Corporate Communications and Public Consultation was convened to participate in the individual and public meetings. The format of these meetings involved a staff presentation providing background information and highlighting the key issues. This was followed by a facilitated round-table discussion where participants were asked to consider and offer their opinions on the issues and water rate structure. A workbook summarizing the issues was also provided to each participant to assist in this regard. Comments were transcribed on a flip chart, which participants were asked to review to ensure there were no inaccuracies. Participants also had the opportunity to write down their comments, and were advised and encouraged to make

written submissions by mail or email following the meeting. The written submissions are attached to the concurrent transmittal letter from the Deputy City Manager and Chief Financial Officer to allow the Committee to formally receive these submissions. Appendix 'A' captures some of the concerns and comments that were most often expressed by the public and other stakeholders, and provides a record of the comments arising from the public meetings.

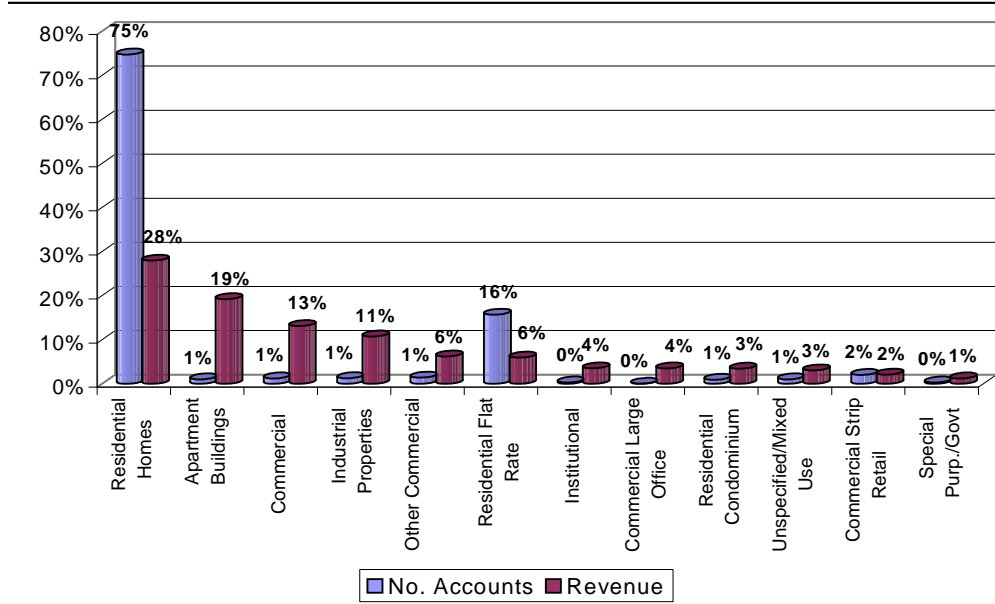
These comments have been taken into consideration in the development of the rate structure principles recommended in this report.

Toronto's Water Customer Profile

Based on a review of the 2006 water billing data, approximately 382.6 million cubic metres of water is sold annually to 385,700 metered customers in the City. Water is also sold to an additional 71,800 customers without meters on a flat-rate basis, primarily in the former City of Toronto. The estimated revenue for 2006 was approximately \$556.0 million from the metered customers, with an additional \$35.1 million in billing revenue from flat-rate customers.

Chart 4 below provides an analysis of the City's 2006 customer profile. Residential Properties (including flat rate accounts, but not including condominiums) represents 91% of water billing accounts (about 414,000 of the 458,000 accounts) and approximately 34% water consumption and revenue. Residential condominiums which are generally bulk metered and costs apportioned to residents by the condominium corporation, represents about 1% (4,300) of billing accounts and 3% of consumption and revenue. Apartment buildings are the second largest consumer group, representing approximately 19% of consumption and revenue, but only 1% (4,600) of billing accounts because these too are generally bulk metered. Together, 'residential' uses represent about 53% of the City's water consumption.

Chart 4 – 2006 City of Toronto Water Customer Profile



The second largest class of consumer is commercial. Commercial properties represent approximately 4% (21,000) of billing accounts, and 25% of the City’s consumption and revenue. Of this, 200 large office buildings represent 4% of consumption, while strip retail makes up about 9,200 accounts representing 2% of consumption. The balance would be a various mix of mid and low rise commercial properties (commercial condominiums, medical offices, restaurants, etc.)

Industrial/manufacturing uses represented the third largest consumer group in the City of Toronto – 1% (5,800) of accounts and approximately 11% of consumption. The composition within this group is quite varied, from small industrial properties to some of the City’s largest water consumers. In fact, the 10 largest industrial properties themselves purchase approximately 12 million cubic metres of water annually from the City, generating close to \$20 million in revenue towards the City’s water and wastewater program. Again, the loss of just one of these customers would result in a 2% increase (approximately 2-3 cents/m³) for all other remaining consumers.

The remaining consumer types include institutional (primarily hospitals and education), representing about 4% of consumption, government (1% of consumption), and unspecified property types.

Comparison of Water Rates and Structures of Other Jurisdictions

A comparative review of the 2006 water and sewer rates and rate structures for the cities and regions surrounding Toronto, as well as select Canadian cities, was undertaken. Chart 5 provides a summary of the rate structures of these cities. Single rates, block rates, and property class and block rates are the most commonly used pricing structures.

Peel Region, Hamilton, Ottawa, and the lower tier municipalities in the Region of York utilize a single rate pricing structure. Additionally, in Peel Region, the sewer rate for residential customers is at 85.0 percent of the rate to non-residential customers. In the Regional Municipality of York, the lower tier municipalities set their own rate applicable to all users within the lower tier municipality. Other cities applying a single rate structure are Kitchener, Waterloo and Vancouver, of which Vancouver and Waterloo have an additional service charge based on meter size.

Durham Region, Halton Region, and Winnipeg utilize a block rate structure. The Region of Durham and Winnipeg provide a block rate depending on consumption for all its customers, with the rate falling as consumption increases. The Region of Halton also provides a block rate structure, however, the water rate increases in three blocks as consumption increases to 60 cubic metres per month (720 cubic metres per year), then falls back to the original low-consumption rate when volumes exceed 460 cubic metres per month (5,500 cubic metres per year). In addition to the per-cubic-metre charge, customers in the three regions must also pay a monthly service charge based on meter size.

Some cities like London, Calgary and Saskatoon use separate block structure for the different consumer classes. One of the most complicated rate structures is used by the City of London. The City has separate charges for water, sanitary sewer and storm drainage and each rate is further broken down by consumer class. The water rate for residents increases with higher consumption set in 3 blocks, while the rates for institutional, commercial, industrial and multi-residential users declines with higher consumption set in another 3 blocks. Separate sewer system rates, based on consumption amount are set for residential, commercial, institutional and industrial. The highest rate is charged to the residential consumers and significantly lower rate (45% to 74% lower) to the other consumers, with the lowest rate for industrial. The storm drainage charge is a monthly fixed charge for all consumers, except for institutional and industrial with annual consumption over 600,000 m³, who are charged per hectare. In addition there is a monthly meter fee based on the meter size. This structure would appear to favour large industrial water users.

Calgary has a single rate for residential water consumers and a separate 3 block declining rate structure for multi-residential and non-residential. Non-residential rates are lower than multi-residential rates. The same structure is applied to the sewer service charge. In addition there is a monthly fixed drainage service charge and a basic service charge based on the size of water meter.

Saskatoon has also different rate structures for residential and commercial users. The total bill is comprised of separate charges for water, wastewater and infrastructure. Residential rates are based on a 3 block declining rate structure, while commercial users are charged based on a 4 block declining rate structure. Residential rates are higher for water and lower for wastewater and infrastructure, compared to commercial rates. In addition there is a monthly service charge based on meter size.

**Chart 5 – Comparison of Water and Wastewater Rate Structures
Select Canadian Cities**

<u>City</u>	<u>Rate Structure</u>	<u>Fixed Service Charges based on meter size</u>
<u>Block Structure:</u>		
Toronto	7 blocks	no
Halton	5 blocks	additional - based on meter size with different rates for Res. and Com.
Durham	3 blocks	additional - based on meter size
Winnipeg	3 blocks	additional - based on meter size
<u>Single Rate Structure:</u>		
Peel	single rate	no
Markham	single rate	no
Vaughan	single rate	no
Hamilton	single rate after minimum consumption	additional - based on meter size includes minimum consumption charge
Kitchener	single rate	no
Waterloo	single rate	additional - based on meter size
Vancouver	single rate	no
Ottawa	single rate	no
<u>Class & Block Structure:</u>		
London	different block rates for Res. and ICI, separate rates for water and sewer service	additional - based on meter size
Calgary	3 blocks, different rates for Res., Multi-res. and non-Res., separate rates for water and sewer	additional - based on meter size
Saskatoon	3 blocks for Res.; 4 blocks for Com.	additional - based on meter size

With respect to residential customers, Toronto’s water and sewer cost (\$429 for 300 m³ (2006)) is the lowest of the municipalities surrounding Toronto, with the exception of Peel Region (\$317) as shown in Chart 6a on the following page. It is notable that London has the highest cost (\$787 for 300 m³). However, such is not the case for mid-sized and higher-volume users. In this range, while Toronto’s cost competitiveness is in ‘middle’ of larger Ontario cities, it is significantly higher than that available in the competing surrounding regions of Peel and Durham, and at increasing volumes, London becomes increasingly competitive due to its unique rate structure. For a mid-sized consumer (i.e. a large commercial building), a business could save \$40,000 annually by locating in Peel versus Toronto, and for a large industrial producer, the saving could be as high as \$450,000 per year by locating or moving to London.

Not only does Toronto’s vulnerable industrial sector have to compete with local competitors, but also with international competitors in other jurisdictions and even with their ‘sister’ plants for capacity utilization. Chart 7 provides a comparison with U.S. jurisdictions with which Toronto’s largest industrial employers have to compete.

Chart 6 – Comparison of Water and Wastewater Costs Typical Residential, Medium Office, and Large Industrial

Chart 6a

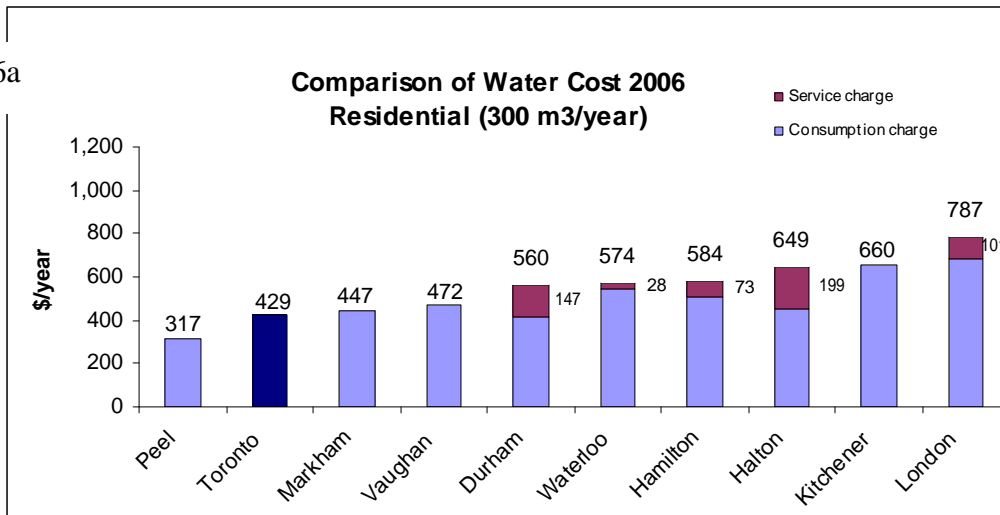


Chart 6b

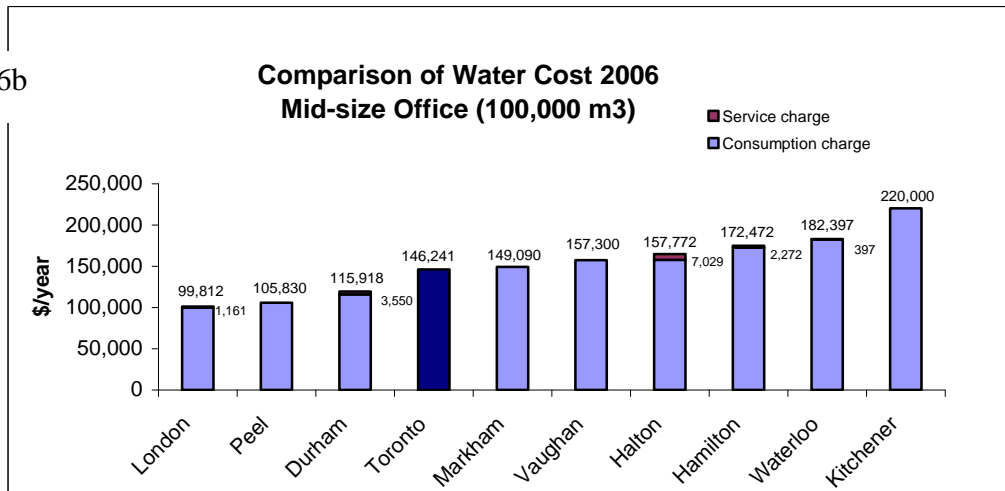


Chart 6c

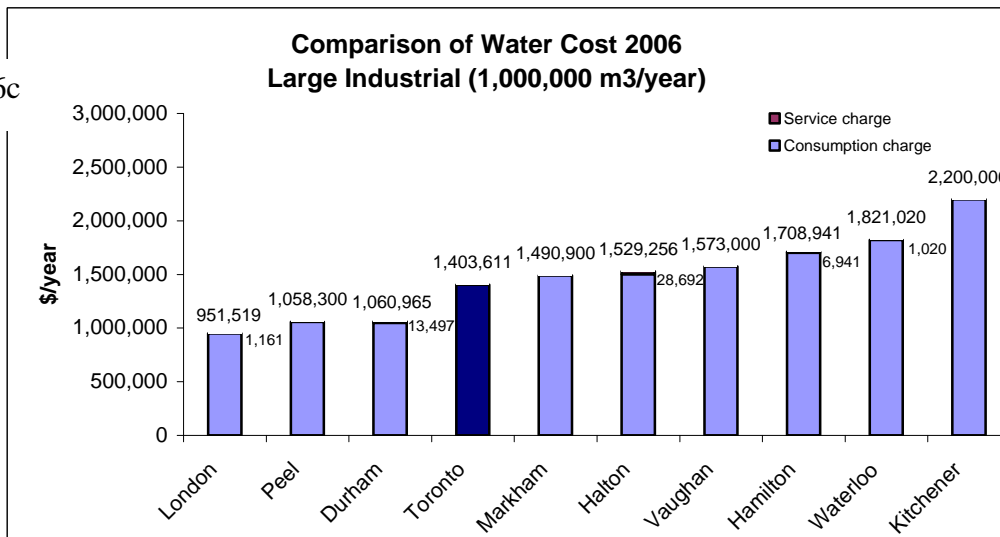
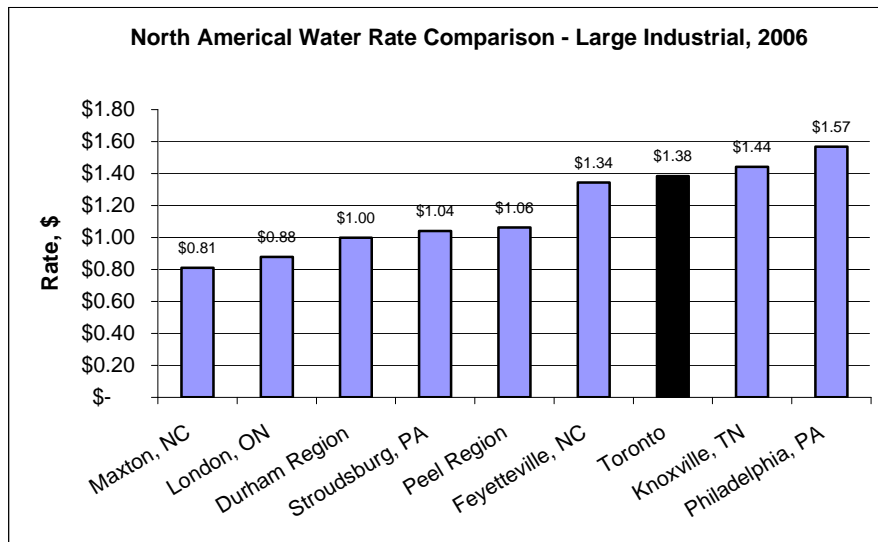


Chart 7



Converted to \$CDN at \$1.15; rates are per cubic metre

Appendix 'B' provides a more detailed description and comparison of the water rate structures of various major Canadian and U.S. municipalities.

Rate Structure Options

This section presents an analysis of a number of rate options for the City of Toronto. It must first be noted, however, the operating and capital programs of the city's water and wastewater programs are required by provincial legislation (*The Sustainable Water and Sewage Systems Act, 2002*) to remain fully self-funding through the imposition of a water rate upon owners or occupants of land who derive a benefit from such service. In other words, any option considered must fully fund the water and wastewater programs.

Prior to the development of the options presented in this report, staff first identified a number of guiding principles that various options and strategies should be assessed against. Stakeholders and the broader public were also asked to comment and embellish upon the principles. The following six guiding principles for the development of a new water rate structure for the City of Toronto resulted from this process:

- Rates should be equitable across customer sectors, and
- Rates should encourage water efficiency, and
- Rates should position the city competitively, and
- The rate structure should be simple and transparent, and
- Rates should ensure the sustainability of the water and sewage systems, and
- Rates must meet regulatory requirements.

From a comprehensive review of other jurisdictions (large Canadian and American cities), the options for a water and wastewater rate structure can be distilled to one or a combination of:

1. Single rate structure
2. Block rate Structure
3. Consumer sector/class structure

A variation of each case is also possible wherein certain fixed/overhead costs are separated from the volume based charge, and shown as a separate fixed charge on the bill.

Option 1 – Single Rate Structure:

One approach that has been raised by stakeholders is that all users pay the same rate. This concept is premised on the basis that water is a basic service available to everyone in the city, and that all users should pay at the same rate.

In this case, all users would pay the average rate of \$1.4541/m³ (based on 2006). Because the current block rate structure is ‘humpback’ in nature, this would mean low and high volume users would pay more, and those currently in the middle block would pay less, as the humpback is flattened out.

The impact of moving to this rate structure would be minimal to residential users - a one-time increase of \$6.94 or +1.5%, to the average residential home, as shown in Chart 8. A mid-sized consumer (i.e. apartment building or medium-sized office building) would see a decrease of about \$1,700 or -0.5%. The City’s largest consumer, (i.e., large industrial manufacturer) would face the greatest increases, projected at \$50,000 or +3.6%.

**Chart 8 - Option 1 – One Volume Rate
Example of Impacts to various users**

	Current 7 Block Structure	One Rate	Impact	
Avg. Residential (315 m ³)	\$454.01	\$460.95	\$6.94	1.5%
Medium Consumer (250,000 m ³)	\$365,236	\$363,525	\$(1,711)	-0.5%
Large Consumer (1,000,000 m ³)	\$1,403,611	\$1,454,100	\$50,489	3.6%

The advantages of a single rate structure are simplicity, transparency, and apparent equity in that all users will pay the same effective rate regardless of size or property type.

The disadvantage of this approach, however, is there is no recognition of the manufacturing and process water needs of the City’s industrial sector, and further, that this approach does not address the issue of competitiveness with the surrounding regions.

Many of the participants at the public and individual meetings liked the idea of a single rate.

Option 2 – Block Rate Structure:

Another approach would be to continue with the volume based block rate structure, but to simplify by reducing the number of blocks. For example, a three-block approach could be designed to provide for a lower rate at a low volume block (eg. seniors/lone persons), as well as a lower rate at a high volume block (eg. to help high volume consumers). The result, in order to balance revenue would be a higher rate for all consumers in the middle consumption ranges.

Example:

<u>Block</u>	<u>Rate</u>	<u>Comment</u>
< 240 m3	1.4206	current low volume rate
240-240,000 m3	1.4705	required middle rate
> 240,000 m3	1.3845	current high volume rate

The impact of moving to this rate structure would be minimal, as shown in Chart 9.

The advantage of this approach would be a simplification of the current structure. The disadvantages would be that it perpetuates the existing horizontal and vertical inequity between properties, and more importantly, that there is no clear focus as to who the intended benefiting groups are. For example, very large condominiums will pay a lower rate than smaller ones (being in the third block), and apartments on average will pay more than residential homeowners (apartments generally fall in the middle block) resulting in a continuation of the inequity within the residential user class.

**Chart 9 - Option 2 – Three-Block Rate Structure
Example of Impacts to various users**

	Current 7 Block Structure	3-Block Rate Structure	Impact	
Avg. Residential (315 m ³)	\$454.01	\$454.17	\$0.16	0.0%
Medium Consumer (250,000 m ³)	\$365,236	\$367,110	\$1,874	0.5%
Large Consumer (1,000,000 m ³)	\$1,403,611	\$1,405,485	\$1,874	0.1%

Most of the participants at the public and individual meetings were not supportive of such a block rate structure because of the inequities that result.

Option 3 – Class and Block Structure

While many of the participants at the public and individual meetings liked the idea of a single rate, they also acknowledged the need to ensure economic competitiveness and to keep and attract jobs in the City of Toronto.

In 1989, total employment in the City of Toronto peaked at almost 1.5 million workers. Since that time, employment in the city has fallen and it is estimated that 100,000 fewer people work today in the City of Toronto than fifteen years ago. In contrast, employment in the rapidly growing suburbs around Toronto has increased significantly over this period. In the last 15 years, 800,000 new jobs have been created in the rest of the Toronto CMA (905 area). Most of these job losses in Toronto, over 80,000, have occurred in the industrial and manufacturing sector, as shown in Chart 10.

**Chart 10 – Changes in Employment
Toronto - 1989 vs. 2005, Various Sectors**

Sector	Employment		
	1989	2005	Net Employment Change
Manufacturing	271,774	189,970	(81,805)
Construction	102,286	54,395	(47,891)
Utilities	20,786	10,991	(9,795)
Services & Retail	1,085,039	1,128,258	43,219
Others	6,911	3,970	(2,941)
Total	1,486,797	1,387,584	(99,213)

There was also recognition that manufacturing and process needs for water is different than domestic needs. In the case of domestic needs, one has control (to some extent) of consumption and can take actions to conserve water. For example, faucet water flow restrictors and low flow toilets can be installed, and in fact the City has programs in place to assist consumers in this regard.

Beyond basic domestic water needs, industrial facilities whose manufacturing and processes require water are generally as efficient as they can be in that use of water. In some cases, such as the food and beverage industry, water is an input in making of products, and obviously as such cannot be reduced without affecting the make-up of the product. This industry in particular is also heavily governed with respect to the quality of water used in the manufacturing processes such as cleaning and heating, and which cannot be reused. In fact, it is for the quality of water in Toronto that some industries choose to locate here.

Rather than being an intended economic incentive for industries and manufacturers, some stakeholders have suggested that an industry's demand for water tends to be constant throughout the year, and through the day too, and as such does not contribute to the *peak day demands* that is largely responsible for escalating infrastructure costs of the system,

so these users don't actually cost as much as domestic uses of water. This suggestion is also given support in the water rate manual published by the American Waterworks Association.

Consideration of these factors have led to the development of Option 3, which is based on one volume rate for all consumers, with an available second lower block rate for industrial process uses over 6,000 m³/year. The premise of this option is that residential, multi-residential and commercial properties are all predominantly consumers of water for domestic needs (drinking, cleaning, sanitation), and as such should all pay the same rate for water. Even industrial properties have a similar domestic use of water, and should also pay the same rate for this use of water.

Staff analysis suggests that consumption in industrial properties in excess of 6,000 m³ per year is generally a reflection of manufacturing and process use of water (6,000 m³/yr. is approximately the consumption of 20 households).

This option does not consider *high volume* as a basis for a lower rate, but rather considers *process/manufacturing need* for water as the basis for a lower rate. In fact, the 6,000 m³ threshold is significantly lower than the City's current high volume block 7 of 240,000 m³/yr.

The Option 3 threshold is intended to assist those using water for industrial and manufacturing processes, and not necessarily just high volume users. In the current 7 block structure, 52 properties access the lowest rate in block 7 (of which only about 20 are industrial, and the rest are large offices, condominiums, institutions, and apartments), whereas staff estimate 750 industrial and manufacturing will be assisted under the proposed 6,000 m³ threshold.

Through this focused approach, a real and material reduction in the rate for block 2 could be afforded to eligible industrial and manufacturing facilities with a minimal affect on other users. Chart 11 provides an estimate of rates for various levels of reduction in block 2. The 2006 average rate is \$1.4541 per cubic metre. If a policy of a 10% reduction for block 2 was elected, then the rate for all user would increase to \$1.4642 (a 1 cent/m³ increase), and rate for volumes above 6,000 m³ for eligible industrial properties would be \$1.3087 (which is significantly lower than the current block 7 rate of \$1.38/m³). A 20% reduction for block 2 would result in a 2 cents/m³ increase to all users, and a block 2 rate of \$1.1633 /m³. The impact on other users would be minimal due to the rate change, but would be more pronounced if a major industry left. Discounts of this size are not uncommon with Durham at 22%, Edmonton at 31%, Calgary at 53%, Winnipeg at 35% and Detroit at 18%).

Chart 11 – Impact on Rates of Recommended Option

	Block 1	Block 2
Eligibility	All consumers, including Industrial consumption of first 6,000 m ³	Industrial tax class, block 2 applies to volumes above 6,000 m ³
% reduction for block 2		
If 10%	\$1.4642	\$1.3087
If 20%	\$1.4744	\$1.1633
If 30%	\$1.4845	\$1.0179

Assuming the example of the 20% reduction in block 2, the impact of moving to this rate structure should be manageable to residential users - a one-time increase of \$13.36 or +2.9%, to the average residential home, as shown in Chart 12. A typical strip retail property would see a one time increase of around \$17.40 (1.2%), and a mid-sized consumer (i.e. apartment building or medium-sized office building) would see an increase of about \$3,400 or +0.9%. A large industrial manufacturer would face the greatest decrease, projected at \$230,000 or -17%.

Chart 12 – Recommended Option – One Volume Rate, all Classes; 20% reduction in 2nd available rate for Industrial process uses over 6,000 m³; Example of Impacts to various users

Type of user	Current 7 Block Structure	Class & Block Structure	Impact	
Avg. Residential (315 m ³)	\$454.02	\$467.38	\$13.36	2.9%
Small Retail 1,000 m ³	\$1,457	\$1,474	\$17.40	1.2%
Large Commercial 250,000 m ³	\$365,236	\$368,597	\$3,361	0.9%
Industrial 250,000 m ³	\$365,236	\$292,688	(\$72,548)	-19.9%
Large Industrial 1,000,000 m ³	\$1,403,611	\$1,165,152	(\$238,459)	-17.0%

The advantages of the recommended option include:

- Being fair and equitable for all consumers for domestic uses of water (eg. commercial, industrial, multi-residential, and residential)
- Simplicity, transparency
- Encourages/supports water efficiency initiatives
- Promotes economic competitiveness for industrial sector where water is a significant cost input
- Focused approach does not result in significant impact on other users (approx. 1-3 cents/m³), while allowing 10-30% reduction for eligible process users

The recommended option was most widely supported at the public and individual meetings and is also consistent with the guiding principles. Several of the participants suggested that the eligibility of an industrial/manufacturing customer be subject to that customer being in compliance and be in good standing with the City's sewer use by-law, and staff support this view.

Compliance with City's Sewer-Use By-law

The City's Sewer Use By-law (Toronto Municipal Code Chapter 681) includes mandatory pollution prevention planning requirements and reduced limits on waste discharges. Certain business sectors must complete a Pollution Prevention (P2) Plan and submit it to the City of Toronto. The Plan identifies ways to avoid, reduce or eliminate the creation of certain pollutants at source.

Staff recommend that in order to be eligible for the industrial process block two rate, industrial process water users must be in compliance with the City's sewer-use by-law to the satisfaction of the General Manager of Toronto Water.

Low-Income Seniors and Low-Income Disabled Persons

There currently is no water cost relief program in the City's current water pricing structure. Rather, the first block applicable to the first 240 cubic metres of water consumed is priced about 3% lower than the next block (\$1.4206/m³ vs. 1.4684/m³).

During the consultation process, concerns were expressed with regards to the on-going affordability of water for low-income seniors and low-income disabled persons, particularly in light of the rate increases forecasted for the next few years.

The City does have property tax relief programs for low-income seniors and low-income disabled persons. These programs provide for the cancellation or deferral of property tax increases, depending on eligibility. To be eligible for the tax increase cancellation program, the homeowner must be 65 years of age or older or a disabled person, have a household income of \$26,000 or less, and their home must be assessed at less than \$454,000. To be eligible for the tax increase deferral program, the homeowner must be 50 years of age or older or a disabled person, have a household income of \$40,000 or less. Deferred amounts must be repaid upon change of ownership.

Most stakeholders supported the principle of assistance for those truly in need. To this end, this report recommends that the same eligibility criteria be used to determine eligibility for relief on the water bill. This has the advantage that only one application need be made for property tax relief and/or water bill relief.

With respect to the amount of the relief, this report recommends that eligible homeowners be entitled to the same lower pricing for process users - initially set at a rate reflecting a 20% reduction from the general first block rate, effective commencing January 1, 2008, and, a further reduction be phased-in at a rate of one-third of any increase in the general first domestic-use block rate until the target of a 30% reduction from the general first block rate is achieved. It is also recommended that to be eligible, the household water consumption must be less than 300 cubic metres per year.

Wastewater Service Rebate:

Certain consumers of water utilize significant quantities of water as part of their process or as an ingredient in their product, with the result that the volume of water returned to the sewer system for treatment is significantly less than that metered into the premises. Since water rates consist of both a water supply and a sewer service surcharge component, the rebate is intended to compensate the consumer for the portion of the sewer service surcharge not utilized. Under the current by-law, a total of 83 applications for rebates for sewer service surcharge were approved based on water usage in 2005. The total amount of the rebate was approximately \$1.1 million.

All eligible consumers currently receive a rebate for each billing period equal to the proportion of water consumed that is not returned to the sewer system. The proportion of water consumed that is not returned to the sewer system is a percentage of the water consumed where the percentage is determined annually based on historical consumption records.

Since 1998, Section §849-23 of the Toronto Municipal Code (Article II) specified rate of rebate to be \$0.3858 per cubic metre, and has never been updated. The rate of rebate should total that portion of the combined water and sewer service rate that reflects the cost of wastewater collection and treatment, which is currently 57% of the total rate. This report recommends amending this rebate rate accordingly, and that the General Manager of Toronto Water and Deputy City Manager and Chief Financial Officer report back on any changes to the administrative procedures as appropriate.

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Attachment

Appendix A – Public Comments Summary & Notes from Public Meetings
Appendix B – 2006 Water Rate Structure Comparison – Major Canadian and American Municipalities

Appendix A

Public Comments Summary & Notes from Public Meetings

- Large industrial users expressed desire for rapid action towards implementation of a new structure in order to achieve competitive pricing versus other locations. Industries need competitive water rates for survival. Water rate is an economic tool to retain and attract business. Water rates should be competitive locally as well as globally
- Rate increases should be moderate and at a manageable pace.
- Consider options for industrial users that would help against pressures of budgetary rate increases together with water efficiency savings programs.
- Large volume users are penalized for fixed costs and would like to see fixed cost distributed more equally
- Provide discount rates for responsible high volume users complying with sewer by-law. The City should monitor the discharge of waste water into the system for such users to be eligible for discount
- Emphasize water quality in rates; provide credit for conservation – e.g. capacity buy-back program
- Large consumers use water as commodity. Business can write off costs, while residents can't
- Concern that lower water rates for high volume users will encourage inefficiency/water being exported out of city for resale (e.g. water bottlers)
- Desire for policies that promote reuse of water; pollution of surface water continues to be a concern
- Provide loans or water efficiency retrofits
- Consider water revenue bonds to fund additional projects
- Process water should be treated differently than domestic water used – e.g. offer wholesale rate for process uses; rationale for different rate – international competitiveness, economic development, and job retention and creation
- Suggested separate class (and rates) for hospitals, governments and schools

- Water not the most significant utility costs; rather, minimizing increases/rate stability in rates more important
- Apartments, condominiums should be sub-metered (e.g. each unit); make mandatory for new construction
- Concern about the overburdening of Toronto's business class; encourage extension of "enhancing Toronto's business climate" initiative
- There should be more public consultation on rate increases
- WWFMP results in disproportionate contribution to costs; would like to see options other than volume based
- Desire for more aggressive water efficiency measures. Need to gather momentum of water efficiency incentives for residents; expand incentives for water efficiency/conservation, scale incentives with rate increases
- Consider efficiency example applied towards large industrial demand management through off peak usage resulting in lower demand on capital infrastructure i.e. Leamington, ON (Heinz)
- Also extend peak demand management for residential users through providing off peak rates
- Desire for above the pipe water management (WWFMP)
- More emphasis of WWFMP efforts on large industrial users
- Group preference towards option 3. Option 3 is more equitable, with little impact on residents and bigger benefits to industrial users

Appendix B

2006 Water Rate Structure Comparison Major Canadian and American Municipalities¹

Review of Rate Structures

Table 1 presents water and sewage rate structures for 10 Canadian and 5 American large municipalities. The characteristics summarised in Table 1, can be outlined as follows:

- There is significant variety in the rate structures in the selected municipalities which seem to be tailored according to local preferences. From the presented 15 municipalities, 5 have single rates (33%) and the rest 10 (67%) have block structures. The frequency of the different block structures is presented in Table 2.
- Most municipalities' (67%) water bills have two components. One is a consumption based charge and the second is a fixed service fee, which is independent of the water volume.
- One municipality, Los Angeles, has a very complex rate structure which is unlike any of the others. Volumetric rates vary by month. Residential customer charges also factor in individual lot size, location and family size. There are also individual rates for other classes such as commercial and industrial, again varying by month.
- Most municipalities have separate water and sewer rates. From the presented 15, Toronto is the only one that combines water and sewage charge in one rate, but there are others as Markham that do the same and are not included in this survey.
- 11 municipalities have one rate structure for all customers, applying the same rates to residential and non-residential customers.
- 4 municipalities (Los Angeles, Edmonton, Calgary and London) have different volumetric rates for residential and non-residential customers. They apply single or increasing block rates to residential customers and declining block rates to non-residential customers.
- No municipalities differentiate classes for water charges within the non-residential group. London does so for sewer charges, with all blocks lower than residential. London commercial has one sewage block, institutional has 2 declining blocks and industrial has 3 declining blocks.
- Overall, single-block rates are popular, but declining block rates have the edge for non-residential customers with 43% of municipalities using them.

¹ Prepared by M. Loudon June 22, 2006 for City of Toronto

Table 1 - Water & Sewage Rates Format for Large Canadian & American Cities (2006 – source internet search)

Municipality	Water				Sewage			
	Residential		Non-residential		Residential		Non-residential	
	Service Charge	Number of Blocks	Service Charge	Number of Blocks	Service Charge	Number of Blocks	Service Charge	Number of Blocks
Vancouver	By size	Single	Same as residential		Min bill	@ 85% of water reading	Min bill	Single
Edmonton	By size	2-IBR	By size	4-DBR	Single	Single	One charge	2-DBR
Calgary	Single	Single	By size	3-DBR	Single	Single	One charge	3-DBR
Winnipeg	By Size	3-DBR	Same as residential		None	Single	Same as residential	
Durham Region	By size *	3-DBR	Same as residential		Single	3-DBR	Same as residential	
Toronto	None	7-humpback	Same as residential		Included in water rates			
Peel Region	None	Single	Same as residential		None	@ 85% of water reading	none	Single
Halton Region	By size	5-humpback	Same as residential		By size	Single	By size	Single
Hamilton	By size *	Single	Same as residential		% Surcharge		Same as residential	
London	By size *	3-IBR	By size	3-DBR	Volumetric only, varies by class with residential highest & industrial lowest with 3-DBR			
Chicago	None	Single	Same as residential		% Surcharge		Same as residential	
New York City	None	Single	Same as residential		% Surcharge		Same as residential	
Atlanta	None *	3-IBR	Same as residential		Min bill	3-IBR	Same as residential	
Los Angeles	Volumetric, varies by month, lot size, temperature zone & household size		Volumetric, varies by month					
Detroit	By size	3-DBR	Same as residential		Single	None	Same as residential	

IBR = Increasing block rates, DBR = Declining block rates, * = also includes minimum bill consumption allowance.

Table 2 Frequency of Different Block Formats

Block Type	Residential		Non-residential	
	Number	%	Number	%
Single	6	40%	5	33%
DBR (declining block rate)	3	20%	6	40%
IBR (increasing block rate)	3	20%	1	7%
Humpback	2	13%	2	13%
Other (LA)	1	7%	1	7%
Total	15	100%	15	100%

- Comparisons of multi-block water rates with first blocks are provided in Table 3. Toronto and Edmonton have relatively minor variations in rates, of less than 5% compared to the first block. It is questionable whether the added blocks have much impact on customers. Some have significant large-volume discounts with Calgary 3rd block at 47% and Winnipeg at 65%. London shows 14%, but this is misleading since the first block is very high, but for a very small volume. Toronto shows 7-blocks, but does not give a rate for usage in excess of the 7th block (240,000 m³).

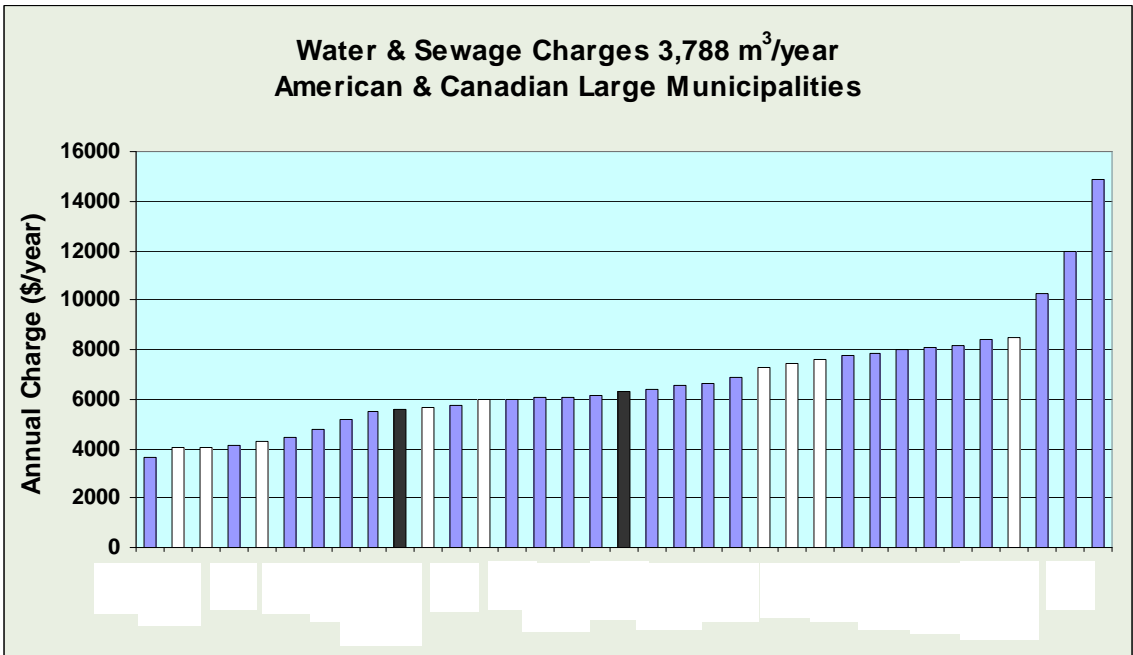
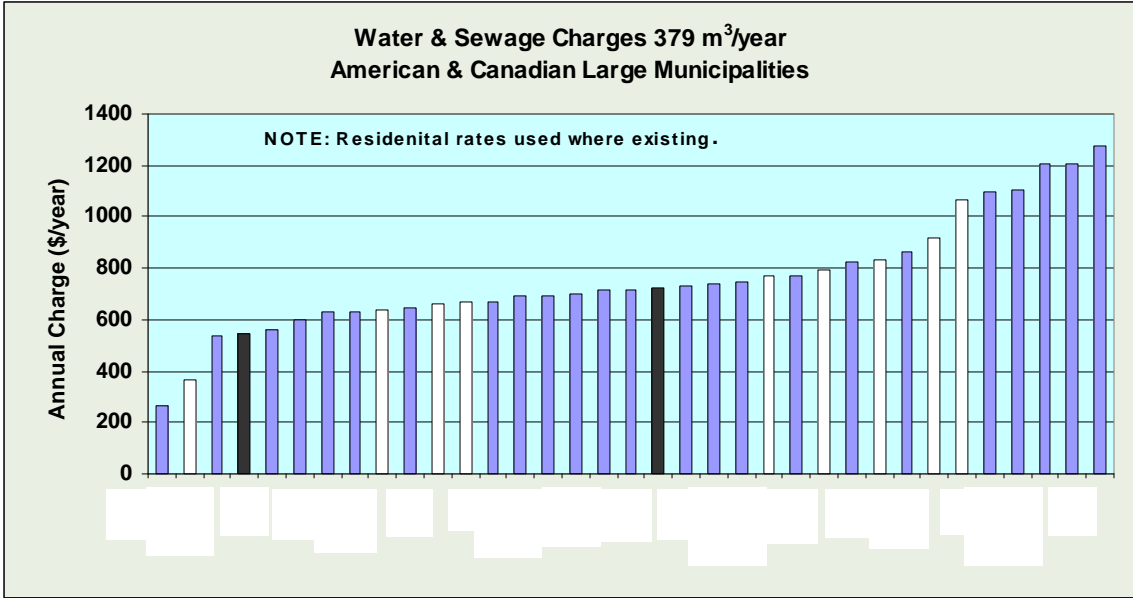
Table 3 – First Block Water Rates, Level of Other Blocks vs. First Block, & Block Consumption Limits

Municipality	1 st Block (\$/m ³)	Rate versus 1st Block (%)						Upper Consumption Limit of Block (m3/month)							
		2nd	3rd	4th	5th	6th	7th	1st	2nd	3rd	4th	5th	6th	7th	
Vancouver	\$0.561														
Edmonton Res	\$1.169	103%						60							
Edmonton ICI	\$1.067	84%	69%					100	1,000						
Calgary Res	\$1.019														
Calgary ICI	\$1.164	64%	47%					100	1,000						
Winnipeg	\$0.971	83%	65%					33.9	339						
Durham Region	\$0.533	85%	78%					45	4,500						
Toronto (W+S)	\$1.421	103%	104%	103%	102%	103%	97%	240.0	5,760	6,000	48,000	60,000	120,000	240,000	
Peel Region	\$0.499														
Halton Region	\$0.796	112%	127%	118%	100%			25	45	60	460				
Hamilton	\$0.851														
London Res	\$1.180	105%	110%					17.0	39.6						
London ICI	\$4.030	17%	14%					2.8	707.9						
Chicago	\$0.343														
New York City	\$0.583														
Atlanta	\$0.681	115%	132%					1.1	2.1						
Los Angeles	n/a														
Detroit	\$0.446	91%	82%					10.6	116.5						
Data Source: Municipal websites															

Water and Sewage Rates Impact in 34 North American Cities

The impact of 2006 water and sewage rates on customers of different sizes in 24 US and 10 Canadian cities are summarized in the attached three graphs, representing small, medium and large users. The US cities data were interpolated from a New York City website since it was up-to-date and represented numerous locations from across the United States. This is used as a starting point. The volumes they used in their comparisons were 100,000, 1,000,000 and 100,000,000 US gallons per year. These are equivalent to 379, 3,788 and 378,800 cubic metres per year. These represent a larger residential customer, a small industry or moderate commercial and a large industry. To this is added information on 10 large Canadian municipalities using rates data from each municipality's web sites.

- Chicago and Peel remain the standard bearers for low price, although their single block rates means that the largest customers pay more than some municipalities with declining blocks.
- Vancouver has low rates as well, especially the volumetric rates. A relatively high service charge results in small customers paying relatively more, but large customers are at the lowest end of the ranking.
- The two humpback rate municipalities, Toronto and Halton, have increasing charges with increased consumption.
- Customers with declining block rates, such as Durham have relatively lower charges for larger users. London, which has increasing block rates for residential and declining block rates for ICI shows an even more pronounced movement towards cheaper rates for large customers.
- Toronto is generally at the low end of charges in large North American municipalities for small to medium-sized customers and mid-range for large customers. Municipalities that some may consider competitors, such as Peel, London, Durham Region, Detroit and Chicago all have lower charges for large customers



**Water & Sewage Charges 378,800 m³/year
American & Canadian Large Municipalities**

