

**The Urban Infrastructure
Challenge in Canada:
Making Greater Use of
Municipal Debt Options**

Independent Real Estate Intelligence

January 28, 2011



The Urban Infrastructure Challenge in Canada: Making Greater Use of Municipal Debt Options

Prepared for:

Canadian Home Builders' Association

Prepared by:

Altus Group Economic Consulting

1580 Kingston Road Toronto Ontario M1N 1S2

Phone: (416) 699-5645 Fax: (416) 699-2252

economics@altusgroup.com

altusgroup.com

January 28, 2011

EXECUTIVE SUMMARY

The Canadian Home Builders' Association (CHBA) retained Altus Group Economic Consulting (Altus) to provide an analysis of efficient, effective and equitable financing tools for urban infrastructure in Canada.

Since the publication of Altus' previous report, *The Urban Infrastructure Challenge in Canada* in May of 2008, the Canadian economy has experienced a sharp recession and a slow recovery. The pace of residential development slowed considerably in most communities across the country during the recession, and governments directed considerable stimulus funds toward infrastructure during this same period.

Moreover, a heavy reliance on development charges and other "pay-as-you-go" schemes to finance infrastructure have downloaded costs onto new home buyers, placing upward pressure on household debt. The Bank of Canada says household debt has risen to worrisome levels.

In light of these events and the changing environment, it is now an ideal time to revisit the analysis of urban infrastructure investment in Canada.

The May 2008 report prepared a framework to assess the state of Canada's infrastructure and related policy options. The report's analysis and findings included sharpening the definition of urban infrastructure, investigating the scope of infrastructure investment in Canada, and focusing on the municipal role in infrastructure provision and funding.

This current paper explores in more detail one of the key recommendations from the first report: that municipalities should be making better and more extensive use of low-cost debt financing when investing in basic urban infrastructure. Debt is a more transparent and accountable funding instrument, and it ultimately shifts the burden across the generations that benefit from the infrastructure.

Infrastructure investment plays a prominent role in the Canadian economy. In addition to its direct economic contribution, the state of Canada's urban infrastructure affects quality of life and economic development.

Appropriate Infrastructure Funding

In recent years, local governments have been asked to finance a larger share of infrastructure investment in Canada. At the same time, municipalities have increasingly turned to development charges for revenues.

Relying on development charges to finance basic urban infrastructure is poor public policy. These charges require a minority of the community to fund infrastructure that benefits the community as a whole. This report analyses a number of aspects of development charges and finds:

- Development charges raise housing prices, reducing new housing affordability.
- Development charges transfer debt from the public sector to the private (household) sector, thus increasing systemic default risks during market downturns.
- Development charges distort real estate markets in a variety of ways. This report points out ways that development charges exacerbate the real estate market cycle, distort new housing markets relative to resale markets and can lead to “up scaling” in the mix of new housing in the community.
- Development charges can create a “revenue trap” for municipalities.

The “revenue trap”, which accompanies an over-reliance on development charges, became more apparent during the 2008/09 recession:

- Due to the decline of housing starts, total municipal development charge revenue across Canada declined some 37%.
- Consequently, municipalities, which had come to rely on development charges and had fixed infrastructure spending commitments, had to find other sources of funding for capital investments in a short time period.

The reliance on development charges to finance municipal infrastructure, given the cyclical nature of development charge revenue, exposes the imbedded fiscal risks associated with this revenue source.

A more effective way to finance local capital investment is to make greater use of debt financing.

Appropriate Debt Financing Options

This report examines funding for three broad categories of local capital investments, ranging from water utilities, recreational centres, and public transit, to city roadways and other growth-related infrastructure. Broadly speaking, the three categories are:

- Category 1 (infrastructure with clearly defined individual beneficiaries/users, such as water utilities): capital investment should be financed by debt, and the debt should be serviced solely by individual user fees.
- Category 2 (infrastructure with some defined individual users, but also providing community benefits, such as recreational centres and public transit): capital investment should be financed by debt; debt should be serviced through a mix of user fees, general property tax revenues and/or grants from other orders of government where appropriate.
- Category 3 (infrastructure mostly providing broad community benefits, such as city roadways and other growth-related, off-site infrastructure): capital investment should be financed by debt, and the debt should be serviced by general property tax revenues.

Debt financing is appropriate for all three categories of capital investment. How a municipality most effectively *services* the debt depends on the category.

In all cases, infrastructure, which provides a steady stream of benefits to the community over a long time horizon, should be financed by debt, as this matches the revenues to pay for the project more closely with those who benefit from it.

It is important to make a clear distinction between debt used to invest in infrastructure that provides a long stream of benefits to the community, and debt related to current operating expenses or other consumption items.

Canadian municipalities have the capacity to make greater use of low-cost public sector debt to finance basic urban infrastructure projects. However, the cost and availability of debenture funding are obstacles, as is an apparent aversion to debt.

“Pay-as-You-Go” is an Illusion

Governments may be attracted to so-called “pay-as-you-go” financing for infrastructure because of an aversion to debt. However, these schemes don’t reduce or eliminate debt, they only transfer debt from the public to the private (household) sector.

Using debt to finance infrastructure projects is not a new concept for Canadian municipalities, but it has become less prevalent. In Ontario, for example, long-term borrowing accounted for some 37% of all capital financing in 1977, falling to about 20% in 2007.

At the same time, the proportion of municipal capital infrastructure investment financed through development charges has risen sharply. Development charges are embedded in the price of new homes and ultimately are financed through personal mortgages.

The transfer of debt from the public to the household sector is contributing to underlying risks. The Bank of Canada has recently raised the alarm that growing household indebtedness in Canada (now close to 150% of income) is making households more vulnerable to macroeconomic shocks.

Public-sector debt is almost always less expensive than household debt, and can be serviced with revenues more closely linked to the utilization of the infrastructure.

Alternatives to Development Charges

There is a wide range of debt financing mechanisms for government to use to support local capital investment. They include general obligation bonds, local improvement debentures, tax-exempt bonds, revenue bonds, and asset-backed borrowing.

Each type of municipal bond has its advantages and disadvantages. This report investigates how municipalities can link the appropriate type of bond issue to the appropriate type of infrastructure investment.

Pooled Debenture Financing Tools

One prominent concern for municipalities in the use of debt to finance infrastructure investment is the cost and availability of funding. To help municipalities, especially smaller ones, overcome such difficulties, federal

and/or provincial governments can play an important role by providing pooled debentures financing tools.

Pooled borrowing involves the federal and/or provincial government issuing debt in financial markets on behalf of local governments to finance local infrastructure needs. Generally, a Crown financing corporation is set up, the debt of which is backed by the federal and/or provincial government. The Crown corporation first issues bonds in financial markets, then uses the proceeds to lend to municipalities for local infrastructure projects.

There are three main advantages to using pooled debentures to meet municipalities' borrowing needs, including:

- Pooled borrowing allows municipalities to secure debt-financing generally at lower rates of interest, primarily through the guarantees offered by federal and/or provincial governments;
- Pooled borrowing gives local governments access to the professional financing experts who engage in borrowing on a daily basis and reduces administration costs of issuing bonds for individual municipalities; and
- As the bonds are backed by the federal and/or provincial government, they can establish debt ceilings and maximum debt service levels for municipalities. This ensures that municipalities can borrow responsibly and avoid overextending their financial abilities.

Pooled debenture tools will be of most assistance to small- and medium-sized municipalities, as larger municipalities have a greater capacity to engage directly in financial markets.

Policy Options

There is a long history of pooled debentures in Canada, although these programs operate on a relatively modest scale at present. This report argues that either current pooled debenture programs (that operate in most provinces) be expanded, or that additional, more broadly mandated, programs be instituted at the federal and/or provincial levels.

Some actions that federal and/or provincial governments could take to make such programs more effective include:

- Either make programs more defined or create separate programs solely focused on basic urban infrastructure.
- Place more effort on promoting existing programs and provide necessary education to municipal officials.
- For provinces with low ratios of municipal borrowing under the pooled debenture program as a percentage of the total municipal capital investment, provincial governments could increase the size of new loans available to municipalities and encourage local governments to take advantage of the program more often.
- The federal government could also consider making the CMHC municipal infrastructure lending program permanent and increase, as required, the amount of funding available under the program. The federal government could also create a federal agency or Crown corporation (similar to the newly created PPP Canada) with corresponding provincial counterparts to improve efficiency of pooled debenture programs across Canada.

Greater use of pooled programs to support municipal debt-financed infrastructure investment will be beneficial for local economic development. The elimination of development charges and other “pay as you go” schemes for basic urban infrastructure will improve equity. It will spread the costs out across the entire community that benefits from infrastructure and economic development. It will also spread the cost more equitably over the productive life of the infrastructure.

TABLE OF CONTENTS

	Page
EXECUTIVE SUMMARY	i
1 INTRODUCTION	1
1.1 Report Structure.....	1
1.2 Caveat.....	2
2 CRITICAL ISSUES IN INFRASTRUCTURE FINANCING	3
3 DEVELOPMENT CHARGES	9
3.1 Development Charges.....	9
3.2 Development Charges Are Unfair	9
3.3 Development Charges Transfer Debt from the Public Sector to the Private Household Sector.....	10
3.4 Development Charges Distort Real Estate Markets	11
3.5 Development Charges Create a “Revenue Trap” for Municipalities	13
4 OPTIONS FOR LOCAL GOVERNMENTS	15
4.1 Services in Category 1	15
4.2 Services in Category 2	18
4.3 Services in Category 3	20
5 DEBT FINANCING TOOLS AND P3S.....	21
5.1 Borrowing Played an Important Role in Financing Infrastructure in the Past	21
5.2 Type of Debt Instruments	23
5.3 Public-Private Partnerships	24
5.4 Conclusion.....	24
6 ROLE OF FEDERAL AND PROVINCIAL GOVERNMENTS	26
6.1 Concept of Pooled Debentures.....	26
6.2 Federal Programs.....	27
6.3 Provincial Programs.....	28
6.4 Policy Options	34
7 CONCLUSION	36
APPENDIX A - BIBLIOGRAPHY	

1 INTRODUCTION

The Canadian Home Builders' Association (CHBA) has retained Altus Group Economic Consulting (Altus) to provide an analysis of efficient, effective and equitable financing tools for urban infrastructure in Canada. In May 2008, Altus prepared a report for CHBA entitled: *The Urban Infrastructure Challenge in Canada*. This report set out to clarify the definition and scope of infrastructure investment, and the role of municipalities in infrastructure provision and funding.

The report noted that development charges are a relatively inefficient financing tool, and that municipalities should give more consideration to debt financing. Since the publication of the report, the Canadian economy has experienced a relatively sharp recession and the pace of residential development slowed considerably in most communities across the country.

This slowing created fiscal challenges for many municipalities that had become progressively more dependent on charges and fees related to new housing to finance infrastructure investments. Economic pressures have led to some municipalities freezing or reducing, often only temporarily, development charges in an effort to promote continued residential development within their jurisdictions.

This recent experience further underscores the deficiencies of development charges as an infrastructure financing tool – development charges are generally too cyclical for infrastructure financing requirements. It also suggests that now is a good time to re-examine the issue of effective financing tools for infrastructure in additional detail.

1.1 REPORT STRUCTURE

This report has seven chapters. In addition to this introduction:

- Chapter 2 reviews key findings from the 2008 report and provides a brief update of the critical issues that have changed since that paper was published;
- Chapter 3 argues that relying on development charges for urban infrastructure financing is poor public policy;

- Chapter 4 presents options for municipalities to finance their infrastructure needs, primarily emphasizing debt financing backed by user fees and general revenues;
- Chapter 5 offers an overview of various debt financing tools for urban infrastructure and P3s;
- Chapter 6 reviews the concept of pooled debentures and existing programs from federal and provincial governments across Canada; and
- Chapter 7 concludes the report with a brief summary and review of policy options facing various orders of government in Canada to finance better the growing urban infrastructure need in the coming decades.

1.2 CAVEAT

This report relies on information from a variety of secondary sources. While every effort is made to ensure the accuracy of the data, Altus Group cannot guarantee the complete accuracy of the information used in this report from these secondary sources.

This report has been prepared solely for the purpose outlined herein and is not to be relied upon or used for any other purposes or by any other party without the prior written authorization.

2 CRITICAL ISSUES IN INFRASTRUCTURE FINANCING

In May 2008, Altus Group prepared a report for CHBA entitled: *The Urban Infrastructure Challenge in Canada*. In that report, Altus presented several critical issues in basic urban infrastructure financing and set out several high-level policy options. This chapter provides a summary and an update of those issues.

Some of the principal findings include:

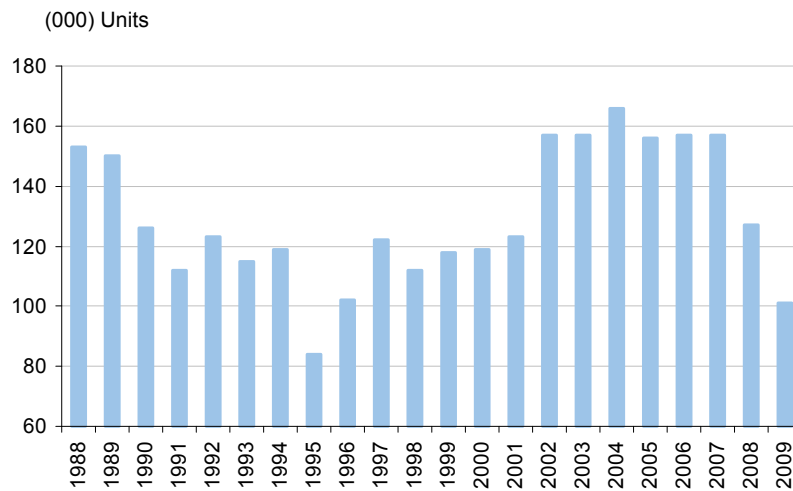
- The value of the public infrastructure capital stock stood at \$231.4 billion in 2006, according to Statistics Canada estimates, representing some 66% of total public capital stock.
- Local governments own the majority of public infrastructure and their share of total government ownership is quickly growing. Transferring responsibilities over the past few decades from other orders of government to municipalities has led to a noticeable shift in the ownership share for public infrastructure.
- The federal government is directly engaged in some 4% of total government capital investment in infrastructure. Taking into consideration transfers for infrastructure purposes to provinces and municipalities, federal government programs account for some 12% of total investment.
- According to Statistics Canada, the average age of basic urban infrastructure in Canada was 16.3 years in 2007, which is a modest improvement from 17.4 years in 2003, but up from 14.7 years in 1973. Despite this modest rejuvenation amongst some basic urban infrastructure in the past few years, there continues to be a concern that some components of Canada's capital stock have either reached or passed their "half usable life", and therefore, require additional investment;
- Basic urban infrastructure is aging fast in Canada and there is increasing infrastructure demand due to population growth in major urban centres. Estimates of the infrastructure "gap", which measures the difference between the ideal infrastructure requirements and the current capital stock, range from \$44 billion to \$125 billion.

- The infrastructure gap represents a challenge to municipalities since local governments are responsible for a large part of the infrastructure investment in Canada. Many municipal politicians argue that cities are not given access to a wide enough array of revenue sources to finance adequately infrastructure renewal.
- Currently, municipalities have several funding mechanisms for infrastructure investments, including the property tax base, grants from federal and/or provincial governments, user fees, development charges, various debt instruments, etc.
- Increasingly, development charges have become one of the main financing sources for urban infrastructure investment. However, the development charge is an inappropriate tool to raise funds. For effective policy, it is important for the infrastructure investment cost burden to be tied as closely as possible to its beneficiaries. Infrastructure benefits both present and future generations and, in general, supports economic development across the entire community. With development charges, the cost is borne by new home buyers, and only within certain neighbourhoods.
- Municipalities could be considering debt financing to a larger extent. Debt financing is generally a more transparent and accountable instrument, and it ultimately shifts the burden across the generations that benefit most closely from the infrastructure.
- Municipalities could also adopt a greater use of user fees covering certain types of infrastructure, such as road or congestion charges, water meters, and gas taxes, as these, again, match beneficiaries with costs. They also have the potential to reduce congestion, promote conservation, and create an opportunity for the designers of infrastructure to gauge demand better.

Since the publication of the report, Canada has experienced a period of economic turbulence, both globally and domestically. The pace of residential development slowed considerably in most communities across the country during the recession. Single-family housing starts dropped to some 101,000 units in 2009 from 157,000 units in 2007 – a 36% decrease (Figure 1).

Figure 1

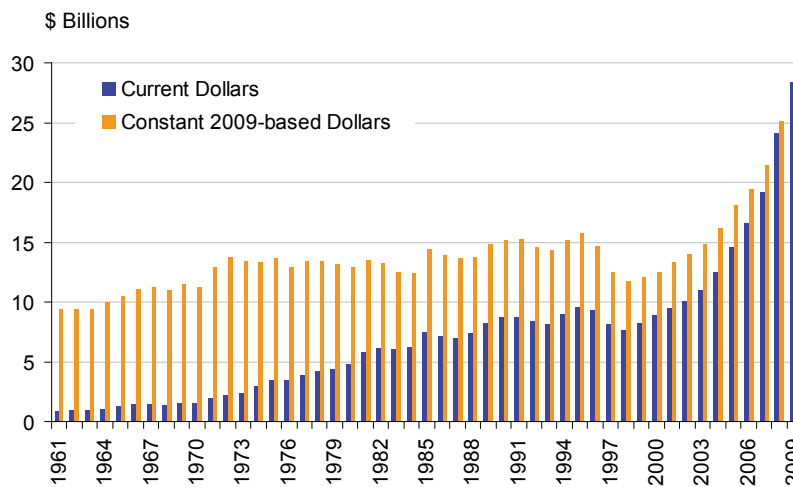
Total Housing Starts, Single-Family*, 1988-2009



Note: *Including Single- and Semi-detached homes, and Rows.
 Source: Altus Group Economic Consulting based on data from CMHC

Figure 2

Infrastructure Investment, Government, 1961-2009



Source: Altus Group Economic Consulting based on data from Statistics Canada:
Fixed Capital Flows and Stocks (Table 031-0002)

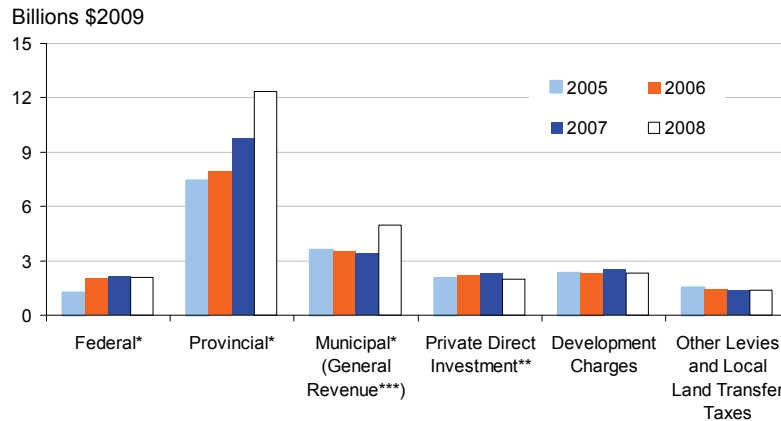
In its 2009 budget, in an effort to mitigate against the economic downturn, the federal government introduced a \$40 billion “stimulus” package, including monies for basic urban infrastructure investment. Provincial and local governments followed the federal government’s lead and increased investment in infrastructure. Total government infrastructure investment rose to about \$28 billion in 2009, almost \$7 billion higher, in real terms, than in 2007, and more than double the amount invested in 1998, a recent low (Figure 2).

The largest component of funding for infrastructure investment in Canada in 2008 came from provincial governments (Figure 3):

- Provincial governments financed a net of over \$12 billion capital investment in basic urban infrastructure in 2008, a growth of 27% relative to 2007.
- The federal government spent about \$2 billion on infrastructure in 2008 in the form of both direct spending and transfers. This was on par with the amount in 2007. This value is net of transfers to other orders of government. When transfers to other orders of government are fully taken into account, annual federal spending on infrastructure is more in the magnitude of \$6 billion.
- In 2008, municipalities invested some \$5 billion in local basic urban infrastructure projects by tapping into their general operating revenues and utilities revenues, an increase of 45% compared to 2007. Municipal investment in basic urban infrastructure includes both newly installed infrastructure and major repairs or upgrades to existing infrastructure serving existing neighbourhoods.
- With funding of \$6 billion in 2008, the private sector is the second largest financier for Canadian basic urban infrastructure projects. Private investment in basic urban infrastructure declined some 9% between 2007 and 2008. By item, private direct investment decreased by 14%, development charges dropped by 9%, and local land transfer taxes and other levies to local government fell by 1%. This is consistent with the trend in single-family housing starts (recall Figure 1).

Figure 3

Basic Urban Infrastructure Investment by Funding Source, 2005-2008

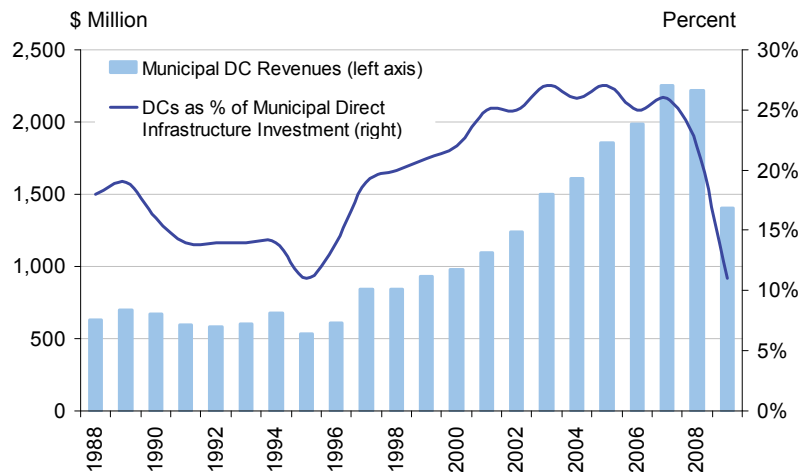


Notes: *Net of Transfers. **On-site infrastructure to be transferred to municipalities.
 ***Including water and sewer charges.

Source: Altus Group Economic Consulting based on data from Fixed Capital Flows and Stocks (Cansim 031-0002), Transfer payments by Infrastructure Canada (Public Accounts of Canada) and National Accounts (Cansim 385-0024 and 385-0002), and consultation with StatCan staff

Figure 4

Municipal Development Charge Revenue and Direct Investment in Infrastructure, 1988-2009



Source: Altus Group Economic Consulting based on data from Statistics Canada, Cansim (385-0024 and 031-0002)

Due to declining housing starts, municipal development charge revenue dropped dramatically from about \$2.2 billion in 2008 to \$1.4 billion in 2009, a decrease of 37% (Figure 4). Consequently, the share of development charges as municipal direct infrastructure investment dropped by half to 11%. However, the share has been averaging about 20% for the last two decades.

The reliance on development charges to finance municipal infrastructure and the cyclical nature of development charge revenue, which greatly depends on trends in the residential real estate market, illustrate the imbedded public policy deficiency of development charges. This deficiency sets up “revenue traps” for municipalities.

3 DEVELOPMENT CHARGES

Basic urban infrastructure brings benefits to both present and future generations and, in general, supports social and economic development and prosperity across the entire community. In recent years, municipalities are relying increasingly on development charges to finance basic urban infrastructure. This chapter argues that such an approach to financing basic urban infrastructure not only presents inequity and inefficiency issues, but also creates a “revenue trap” for municipalities.

3.1 DEVELOPMENT CHARGES

Many Canadian municipalities are permitted by provincial legislation to levy specific charges against the developers of new residential and non-residential building lots to offset some of the costs to the municipality of bringing services and transportation infrastructure up to that lot or development area. A development charge is typically levied at a specific dollar value per lot (per dwelling or building type) on newly developed areas.

Development charges are typically imposed on land developers to finance the off-site, growth-related capital costs deemed to be related to new development, such as water supply systems, sewage treatment plants, sidewalks, streets, etc.

3.2 DEVELOPMENT CHARGES ARE UNFAIR

New and upgraded basic urban infrastructure benefits the entire community and delivers its benefits over a very long time period. Ideally, from an equity standpoint, the costs associated with such an investment should be borne across the entire community and should be spread out over time to match, roughly, the productive life of the infrastructure.

Asking a narrow segment of the community (the new home buyer) to bear most or all of these costs and to do so “up front”, violates both of these principles:

- Through development charges, new home buyers finance infrastructure that benefits existing homeowners; effectively, new

home buyers subsidize existing households¹ – this separates funding sources of infrastructure investment from beneficiaries:

- Because development charges increase the price of new homes, this can push up the price of existing resale homes. This benefits the existing homeowners since their properties become more valuable; and
- In addition, existing homeowners benefit from growth in the form of a stronger municipal tax base, overall economic growth, and improved employment opportunities as the city grows;
- Through development charges, new home buyers finance infrastructure that benefits several generations over the lifetime of the infrastructure. This creates intergenerational inequity.

3.3 DEVELOPMENT CHARGES TRANSFER DEBT FROM THE PUBLIC SECTOR TO THE PRIVATE HOUSEHOLD SECTOR

When municipalities borrow to finance growth-related basic urban infrastructure, they can do so through instruments that match future revenues related to that infrastructure with future debt service requirements. This process is both transparent and equitable.

In contrast, requiring new home buyers to pay for infrastructure that ultimately becomes part of the public capital stock, and keeping in mind that buyers are likely to finance much of this obligation with personal mortgages, means that a portion of the public capital stock in Canada is privately financed through the household mortgage market.

In short, households are financing a large portion of public infrastructure each year through personal mortgages.

Although some municipalities can claim to be debt free, or to keep debt to a minimum, the offloading of this debt to households through the personal mortgage market raises a number of issues:

- Cost issues: households may be financing this debt with higher interest rates or other less favourable terms than the municipality

¹ Vander Ploeg (2006).

would be able to obtain, ultimately pushing up the cost to the community as a whole of the infrastructure project.

- Equity issues: requiring households to bear the debt for basic urban infrastructure reduces the borrowing room for potential home buyers – reducing affordability and keeping a number of potential buyers out of the market.
- Debt burden and innovation issues: requiring households to bear the debt of basic urban infrastructure generally increases the debt burden for homeowners. While lenders have historically responded to debt burden by allowing lower down payment mortgages, longer amortizations and other innovations with insured loans, the recent mortgage crisis in the U.S. teaches that caution should be exercised in this area.

The implicit transfer of debt from the public sector to the household sector, through measures such as development charges, brings into question Canada's degree of fiscal prudence:

- According to the federal Department of Finance, Canada's debt-to-GDP ratio declined from some 69% of GDP in the 1994/95 fiscal year to an estimated 28% in 2007/08.
- However, over this same period, according to the Bank of Canada, household debt as a share of personal disposable income rose from some 100% to 135%, and continues to rise. Already, the Bank of Canada and others have expressed concerns over the size of residential debt in Canada. Residential debt is largely connected with DCs and other government charges, taxes and levies being downloaded to the new home buyer.
- These two diverging trends are taking place over a period in which governments are making increasing use of development charges to finance additions to the public capital stock (recall Figure 4).
- There is a risk that this "shell game" is masking the actual underlying degree of fiscal prudence in Canada.

3.4 DEVELOPMENT CHARGES DISTORT REAL ESTATE MARKETS

New home buyers are very heavily taxed – much of which goes to support basic urban infrastructure:

- CMHC finds that levies, fees, charges and taxes on a typical newly-built single-detached home can be up to 18% of the purchase price.²
- Moreover, during the 1995-2007 period – a time when the housing market generally strengthened – municipalities dramatically increased their reliance on development charges as a source of financing for basic urban infrastructure.
- Between 1995 and 2008 municipalities in Canada shifted their reliance on development charge revenue as a source of funds for basic urban infrastructure from some \$573 million to \$2.2 billion – representing an increase from about 11% of municipal direct infrastructure investment to 22%, doubling its share.

The effect of this move by municipalities can cause market distortions:

- As new home buyers take on greater financial responsibility for funding a municipality's basic urban infrastructure, real housing prices are forced up. Housing prices that rise too fast can be destabilizing to a housing market and ultimately local economies, as recent events around the world, and in the U.S. in particular, have illustrated³. In this regard, development charges contribute to housing market risks.
- Because new home and resale markets are closely connected, the development charges also affect the price of existing resale homes. As a result, the development charge distortion will bleed into the resale market and make market distortion even broader.
- A DC represents an additional cost factor for a new home and is generally levied at a fixed rate per dwelling. These additional 'per dwelling' charges cause markets to "up-scale", which spreads the

² CMHC (2009).

³ Housing prices can rise more quickly during expansionary times in the real estate cycle. Expansionary phases tend to come to an end once prices rise so far that housing affordability deteriorates and demand falls, this is called a 'market correction' and can sometimes be quite destabilizing to local economies. This is evident in many U.S. municipalities since the housing correction in that country began in about 2007. The strong increase in the share of urban infrastructure financed through development charges in Canada during the 1995-2007 period (which was an expansionary phase of the cycle) shows clearly that municipalities look to expansionary phases as a time to transfer more costs to new home buyers. This has the effect of accelerating the rise in prices in the expansionary phase, and introduces the risk of an even sharper market correction once that phase comes to an end.

charge over a larger base⁴. Up-scaling the range and mix of new housing in a community can present additional affordability issues and may run contrary to planning policies that aim to increase the number of smaller, affordable, units produced.

- The shift in debt burden related to infrastructure from the public sector to the household sector can also cause debt-market risks. Households' exposure to debt becomes a greater concern during times of uncertain housing prices. Highly leveraged households face a greater risk of default, especially when housing markets cool down or go through a correction phase in the cycle. The additional debt that the household sector has taken on through its financing of basic urban infrastructure exacerbates these risks.

3.5 DEVELOPMENT CHARGES CREATE A "REVENUE TRAP" FOR MUNICIPALITIES

At the same time, by increasing their reliance on development charges as a source of revenue, municipalities have set themselves up for the downside of a cyclical revenue source - declining revenues when the housing sector slows down:

- For a wide array of reasons, new home sales and ultimately new home construction tend to fall sharply during recessions in Canada. Housing sales depend heavily on the willingness and ability of potential home buyers to make what, for most, is the largest investment in a lifetime.
- Home buying decisions are influenced by interest rates, consumer confidence, the relative cost and availability of alternatives such as renting, and, importantly, on the price and availability of attractive new housing products in the marketplace.
- During the recession, the willingness and ability of potential home buyers to make a purchase can drop dramatically, causing large decline in new home construction.
- Figure 1 illustrates the relatively wide swings across the economic cycle in single-family housing starts. For example, housing starts of

⁴ "More home" refers to either larger homes or to homes with more expensive features and finishes. A fixed-value-per-dwelling charge will seem lower as a percent of the total home value for larger or more expensive homes.

single-family homes dropped to some 101,000 units in 2009 from 127,000 units in 2008 – a 20% decline.

- Correspondingly, development charge revenues decreased by 37% to \$1.4 billion in 2009, which caused the share of urban infrastructure investment financed by development charges to decline to 11% in 2009 – half of the share in 2008.
- By relying on this cyclical revenue source for their infrastructure finance, municipalities have created a troubling revenue trap.

Municipalities in a revenue trap face consequences to their financial capabilities:

- If municipalities rely heavily on a cyclical revenue source such as development charges, they lose fiscal flexibility.
- Cyclical revenue also presents staging problems for large projects – when a planned large scale infrastructure investment is coincident with a decline in new home construction, municipalities face challenges funding those projects under the current financing structure.
- It is also difficult for municipalities to implement any counter-recession capital investment plan since a large part of its capital financing is generated from a cyclical source.

Basic urban infrastructure brings benefits to both present and future generations and, in general, supports social and economic development and prosperity across the entire community. Relying on development charges to finance infrastructure investment is poor public policy, because:

- Development charges are unfair;
- Development charges transfer debt from the public sector to the private household sector;
- Development charges distort real estate markets; and
- Development charges create a “revenue trap” for municipalities.

4 OPTIONS FOR LOCAL GOVERNMENTS

This chapter examines various options and suggests that the best way to finance local capital investment is to make greater use of debt financing.

Municipalities provide services to local residents that directly affect their standard of living. In general, investments in municipal infrastructure benefit everyone in the community. But, the degree to which the “beneficiaries” are different across the community and the degree to which they can be specifically identified varies by project category. Municipal capital investment could be considered in terms of three categories:

- **Category 1:** Infrastructure for which individual beneficiaries are easily identified and receive most or all of the benefit.
- **Category 2:** Infrastructure for which individual users/beneficiaries can be identified, but a wider range of benefits are felt across the community as a whole.
- **Category 3:** Infrastructure where most or all of the benefits are shared across the community as a whole.

This chapter examines current practices in financing municipal capital investment in these three categories. The most effective way to provide funding for infrastructure projects is to use long-term debt.

Long-term bond financing is appropriate of all three categories of urban infrastructure. How a municipality services the debt depends on the category:

- **Category 1:** debt should be served solely by user fees;
- **Category 2:** debt should be served by a mix of user fees and general property tax revenues and/or grants from other orders of government where appropriate; and
- **Category 3:** debt should be served by general property tax revenues.

4.1 SERVICES IN CATEGORY 1

Capital investment should be financed on the basis of benefits received.

There are no clear reasons why municipalities (and their utilities) should not charge full cost recovery pricing on the services in Category 1. The entire up-front cost of the capital investment should be debt-financed and fees

generated from the infrastructure and related service should be used to cover both operations costs and debt service requirements.

Water and sewer services are obvious examples in this category:

- The end user of the service, either individual household or business, can be easily identified; and
- The usage for each user also can be easily metered.

It is relatively easy for municipalities to implement full-cost recovery pricing, in the case of these services, to cover the cost of both operations and capital investment.

Evidence suggests, however, that municipalities in Canada (or their utility commissions) rarely charge the full cost for the delivery of clean water to their residents. For example:

- In 2007, the revenues municipal water agencies earned represented only 70% of their total expenditures – which by most accounts understates the costs of their operations.⁵
- In 1991, only about half of households had water meters in their homes in Canada. Coverage has slowly increased, to about 63% by 2004, but about one-third of Canadian households are still without water meters. Most of these households are in eastern Canada – Quebec municipalities have the lowest rates of residential water metering.⁶
- In Ontario, municipalities took in (as water-related revenues) only 64% of the full costs of providing water and wastewater services in 2003.⁷

The results of this under-pricing are:

- Municipal governments systematically cross-subsidize water and sewerage services from general revenue.
- The water system is significantly underinvested. One study of 20 water utilities across Canada finds that capital investments at current utility operations are relatively low.⁸

⁵ Renzetti (2009).

⁶ Ibid.

⁷ The Water Strategy Expert Panel (2005).

- This underinvestment causes less reliable service, more leaks, increasing risk to public health and convenience, environmental damage and demands for subsidies.⁹
- The underpriced water rates may also lead to overconsumption of water, inflating the requests for the size and number of treatment plants.

Currently, municipalities prefer a “pay-as-you-go” funding model for capital projects such as water and sewage systems rather than debt borrowing¹⁰. Under this model, the funding for the project comes from a mix of reserve funds, current rates and grants. However, a number of problems emerge when funding these types of projects with reserve funds and/or grants.

Building up the reserves for a large project takes many years and capital projects that could be required immediately have to wait, resulting in inadequate services to local residents. Other problems with the reliance on reserves include:

- The long horizon of building up the reserve fund implies that residents who pay for the infrastructure might never use it when it is finally complete, causing intergenerational inequity.
- Although the reserve fund may be initially labelled for a particular project or class of projects (e.g. “water reserves”), it is not uncommon for municipal politicians to amend such restrictions and divert the funds toward other emerging priorities.¹¹

The use of grants from other orders of government can also be problematic, especially with respect to accountability. Local governments treat grants as “free money” that they either use or lose. This mindset towards grants can lead to ill-considered investments.

Grants create a poor alignment between infrastructure investment and community priorities and requirements. For example, in Ontario, the Direct Grants program, which ran from 1974 to 1992, provided up to 85% of capital costs for water systems. According to a 1996 study of Ontario’s water system,

⁸ Ibid.

⁹ Ibid.

¹⁰ See Ibid for example, with respect to Ontario municipalities.

¹¹ Ibid.

44% of treatment capacity in place at the time was in excess of current needs.¹²

Using grants to finance this category of infrastructure can also increase regional inequality, distort large metropolitan growth and reduce accountability of the local government.

Capital investments in this class of infrastructure in new subdivisions are normally paid by new home buyers through direct private investment or development charges (both of which end up being costs built into the price of the home). However, as seen in Chapter 3, this financing model, for infrastructure that benefits several generations, is inequitable and represents poor public policy.

Using debt to finance capital investment offers several benefits over “pay-as-you-go” or the development charges model:

- It allows the capital cost of the ‘category 1’ infrastructure to align better with the flow of revenue it generates. Municipalities can borrow the cost of the capital up-front, then use revenue generated from user fees paid by beneficiaries to make repayments over the lifetime of the infrastructure. In this way, the people who pay for the infrastructure are the ones who benefit from it. This approach is fair and simple.¹³
- It provides flexibility to deal with capital requirements as they arise. For example, municipalities avoid waiting years to upgrade water systems. Municipalities initiate capital projects as demand requires.¹⁴
- It improves capital financing accountability. Once a loan agreement is established for a particular project, there is limited flexibility for the diversion of funds thereafter.¹⁵

4.2 SERVICES IN CATEGORY 2

There are two main public services under this category: social infrastructure and public transit. This section argues that capital investment in both services should be financed by borrowing.

¹² Ibid.

¹³ Kitchen, H. and E. Slack (2003).

¹⁴ The Water Strategy Expert Panel (2005).

¹⁵ Ibid.

4.2.1 Social Infrastructure

Capital investment in social infrastructure projects such as recreational centres and libraries can potentially benefit the whole community, because these facilities generate positive spin-off benefits (i.e. improved community health, literacy, etc.).

If a social infrastructure project is constructed using debt financing, then the annual costs will be a combination of operating costs and the debt service costs. Taken together, these annual costs should be paid for by a combination of user fees and general tax revenue:

- The majority of the benefits from this category of social infrastructure still accrues directly to users, and thus, user fees should cover a majority of the costs.¹⁶
- The remainder of the costs should be paid for from general revenues, based on the benefits accrued to the community as a whole.
- In certain circumstances, where the benefits from the infrastructure are accrued outside of the municipality, some of the costs could be paid from federal and/or provincial grants as appropriate.

4.2.2 Public Transit

The benefits from public transit capital investment are shared between direct users (transit riders) and the broader regional community. The regional community can benefit from public transit investment because:

- Better public transit systems can reduce traffic congestion which is costly to the economy and environment.
- Better public transit systems can improve the local standard of living and promote regional economic development as it facilitates the attraction and retention of a mobile workforce.
- Similar to social infrastructure, local governments should issue long-term debt to fund the initial investment of public transit systems. Afterwards, local governments could apply general tax revenues and specific user fees to service the debt and finance the operation. Since

¹⁶ Kitchen, Harry (2006).

benefits from public transit systems are widespread, it is appropriate to finance such projects partially by federal and/or provincial grants.¹⁷

4.3 SERVICES IN CATEGORY 3

Infrastructure in this category, including city roadways, transportation structures, street lighting and other growth-related infrastructure ultimately benefits everyone across the community. Individual beneficiaries are either difficult to meter and/or only account for a minority of the overall “benefits.” Thus, it is inappropriate to apply any cost recovery pricing strategy to finance capital investment.

For example:

- Investment in arterial upgrades and signalization related to a new residential subdivision benefits homeowners living in the area. However, usage of these streets is not exclusive to new residents.
- Motorists and pedestrians from other parts of the city will also use those streets and signals. The investments broaden the city’s road networks, creating benefits for the whole city.
- Moreover, the economic development benefit from the growth (for example, strengthening the labour force) also provides a benefit to the wider community.
- Thus, it is most appropriate to use general property tax revenues to finance these capital projects.

Local governments could issue debt to finance the up-front construction cost of the city streets in those new subdivisions, and later, use general property tax revenues to repay the debt over the lifetime of the infrastructure. Currently, many municipalities rely on new home buyers as a primary financier for growth-related infrastructure. This is inequitable and poor public policy.

¹⁷ Grants from other orders of government can be backed by general income tax revenue or other special levies such as the fuel tax, in certain circumstances.

5 DEBT FINANCING TOOLS AND P3S

This chapter explores some of the most common debt financing mechanisms that governments can use to support their capital investment. In addition, this chapter also introduces the concept of using public-private partnerships (P3s) to finance infrastructure investment.

5.1 BORROWING PLAYED AN IMPORTANT ROLE IN FINANCING INFRASTRUCTURE IN THE PAST

Using debt to finance infrastructure projects is nothing new to Canadian municipalities. In Ontario, for example:

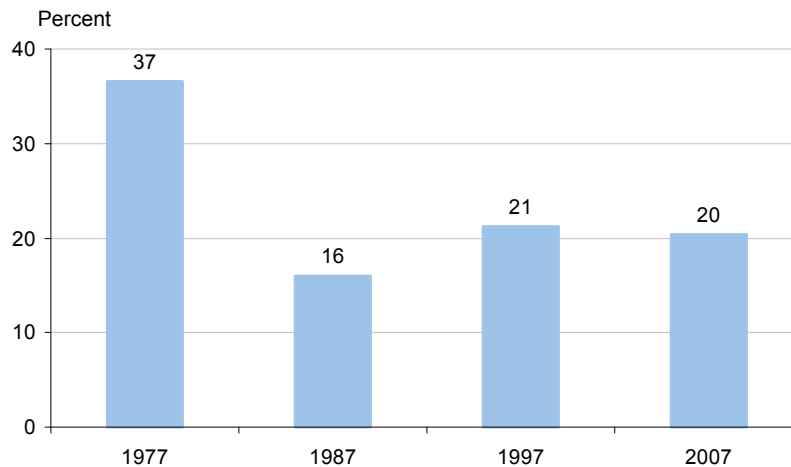
- Historically, off-site services, such as sewer and road improvements, were paid for through municipal bonds supported by general municipal revenues such as property taxes. However, through the 1950s, subdivision agreements were increasingly used to levy charges to pay for local off-site services and the practice continued to spread during the 1960s and 1970s.¹⁸ In 1989, the province formally approved *The Development Charges Act*, providing the legislative foundation for municipalities to impose development charges for all growth-related capital expenditures in new development areas.
- Back in 1977, long-term borrowing represented some 37% of all capital financing in Ontario. This number dropped to 16% in 1987.¹⁹ Although the ratio recovered somewhat over the years, it was still much lower than in the 1970s – it stood at about 20% in 2007 (Figure 5).

¹⁸ Skaburskis, A. and R. Tomalty (2000).

¹⁹ Kitchen (1990).

Figure 5

Percent of Municipal Capital Financing from Long-Term Borrowing, Ontario, 1977-2007



Source: Altus Group Economic Consulting based on data from *Municipal Bond Financing: Issues and Alternatives* and *Physical Infrastructure and Financing*, Harry Kitchen, and *Multi-Year (2000 - 2008) FIR Review – Provincial Summary*, Financial Information Return

Certainly, Canadian municipalities have the capacity to use more debt to finance their infrastructure projects - low debt balance, strong operating performance, and high liquidity continued to strengthen municipalities' financial position in Canada²⁰:

- Collectively, Canadian municipalities have relatively strong credit profiles when compared with those of their rated international peers.
- At year-end 2007, on average, direct debt, including both tax- and rate-supported debt, represented about 41% of operating revenue and median debt remained stable at about 34%, a relatively modest level when compared with global peers.

The reason a majority of Canadian municipalities have low debt is because they largely fund capital plans internally.

In a 2003 study on public finance, the authors suggest that “much of the cost of the needed upgrading in Ontario’s physical infrastructure such as roads and water, both at the provincial and especially at the local level, should be

²⁰ Standard & Poor’s Report Card (2009).

financed by borrowing”.²¹ Debt financing is seen as one of the more effective ways to satisfy growing needs for infrastructure.

It has been observed that the underutilization of debt financing for infrastructure is due primarily to the lack of political will at the local government level in Canada – in general, municipal officials in Canada prefer to finance infrastructure on a “pay-as-you-go” basis rather than using debt.²²

5.2 TYPE OF DEBT INSTRUMENTS

The apparent underutilization of debt financing by Canadian municipalities in recent years does not reflect a lack of options.

Municipalities currently have capacity to make greater use of low-cost public sector debt, and have access to a wide array of debt instruments.

A number of important Canadian studies in recent years have examined existing and potential municipal options for borrowing²³. The strengths and weaknesses of the five most prominent options discussed in the literature are presented in Appendix A of this paper. These five prominent options include:

- General Obligation Bonds – the simplest form of municipal bond and most appropriate for Category 3 type infrastructure.
- Local Improvement or Special Assessment Debentures – municipal borrowing on behalf of an existing and consenting group of property owners, typically for Category 1 type infrastructure.
- Tax-exempt Bonds – a bond option found mainly in the U.S. that purports to reduce the cost of borrowing for municipalities, and can be effective for Category 2 and 3 type infrastructure.
- Revenue Bonds – an innovative bond structure for full revenue infrastructure (i.e., Category 1 and selected Category 2 projects) that transfers some of the investment risk to bondholders without transferring ownership.
- Asset-backed Borrowing – a bond with lower interest rates but with limited applicability – typically “marketable assets” in the Category 1 infrastructure.

²¹ Bird, R. M. and T. A. Wilson (2003).

²² Kitchen, H. and E. Slack (2003).

²³ See, for example, Canada West Foundation (2006), TD Bank (2004), and CMHC (1999).

5.3 PUBLIC-PRIVATE PARTNERSHIPS

Public-private partnerships (P3s) are emerging in Canada as a finance model for the provision of some types of municipal infrastructure.

Under a P3 model, private enterprise participates directly in a public infrastructure project. There are various types of the P3 financing models, but in general, the private partner designs, finances, builds and operates the public infrastructure and the government monitors and regulates the service and pricing.

The main benefit of P3s is in sharing the risks, and reducing the need for the government to raise capital. Other advantages include:

- Increasing funding resources for governments;
- Better planning and budgeting of capital investment;
- Greater competition in public sector services; and
- Improvement in accountability, transparency of infrastructure financing and operation.

Normally, the private partner issues debt to finance the construction of the infrastructure and later uses revenues generated from the infrastructure, such as water fees and road tolls, to pay off the loan. Essentially, P3s are similar to the revenue bond financing model for municipalities.

The P3 model of infrastructure financing is still emerging in Canada, and there are only limited examples of its use at the municipal level. Examples in Canada are mostly social infrastructure such as hospitals, schools, community centres and police stations. P3s have also been employed in certain transportation infrastructure projects, such as the Canada Line in Vancouver and the Disraeli bridge project in Winnipeg.

There are examples of P3 financing for a broader array of basic urban infrastructure projects internationally, particularly in Australia and the U.S.

5.4 CONCLUSION

This chapter explores some of the most common debt financing mechanisms that governments can use to support their capital investment. Debt has historically played an important role in financing municipal infrastructure in Canada, but there has emerged an underutilization of debt financing in recent years.

This underutilization does not reflect a lack of options. Municipalities currently have capacity to make greater use of low-cost public sector debt, and have access to an array of debt instruments – some more appropriate than others depending on the type of infrastructure.

Moreover, the emergence of P3 models of debt finance is providing more options for some larger Canadian municipalities.

There may remain obstacles in terms of the cost and availability of debenture funding, especially for smaller and medium sized municipalities. In these cases, there is a potential role for federal and/or provincial governments, which is explored in the next chapter.

6 ROLE OF FEDERAL AND PROVINCIAL GOVERNMENTS

One key concern for municipalities in the use of debt to finance infrastructure investment is the cost and availability of funding. Investors normally demand higher interest rates on riskier loans and stay away from small issues (i.e. the total amount of the bond issue is less than say, \$5 million dollars). To help small and medium sized municipalities overcome such difficulties, federal and/or provincial governments can make better use of pooled-debenture financing tools. This chapter explains the concept of pooled debentures, reviews current programs offered by federal and/or provincial governments and argues that better use could be made of this financing tool.

6.1 CONCEPT OF POOLED DEBENTURES

The concept of pooled borrowing involves the province issuing debt in financial markets on behalf of local governments to finance local infrastructure needs. Generally, the provincial government sets up a Crown financing corporation whose debt is backed by the province. The Crown corporation first issues bonds in financial markets, then uses the proceeds to lend to municipalities for local infrastructure projects.

There is a long history of such practice in Canada, although these programs operate on a modest scale at present. Alberta's municipal finance authority, for example, began operations in 1956. Currently, a large number of municipal bonds in Canada are issued indirectly through the province or a provincial-municipal financing authority.²⁴

There are several advantages to using pooled debentures to fulfill municipalities' borrowing needs, including:²⁵

- Pooled borrowing allows municipalities to secure debt-financing generally at lower rates of interest, primarily through the guarantees offered by the province.
- Pooled borrowing gives local governments access to the professional financing experts who engage in borrowing on a daily basis and

²⁴ Vander Ploeg (2006).

²⁵ Ibid.

reduces administration costs of issuing bonds for individual municipalities.

- Pooled borrowing agencies can act as a “one stop shopping” source for smaller municipalities.
- Because the bonds are backed by the province, provincial governments normally install debt ceilings and maximum debt service levels for municipalities – this ensures that municipalities will borrow responsibly and avoid overextending their financial abilities.

Some municipalities may not accrue all of these advantages. For example, larger municipalities, which could get lower interest rates by directly issuing bonds, may find it disadvantageous to have limited ability to negotiate interest rates or other terms of a loan.

Larger municipalities should always have the option to pursue borrowing on their own, even when a comprehensive pooled borrowing facility is available.

6.2 FEDERAL PROGRAMS

In 2009, the federal government established the Municipal Infrastructure Lending Program through the Canada Mortgage and Housing Corporation (CMHC) to lend money to municipalities across the country. The infrastructure investment is for different types of projects, including new construction, expansion of an existing structure or in the case of residential areas, renewal of an existing structure.

The program has a total budget of \$2 billion. The term is mostly fixed at 15 years, however, requests for terms other than 15 years may be considered at the CMHC’s discretion. The interest rate is generally lower than the typical municipal borrowing rate since there is no profit margin built into the rate.

Between June 2009 and October 2010 CMHC announced the approval of a total of \$630 million in loans to municipalities – about 32% of the potential lending pool. There are undoubtedly more loan approvals underway that are yet unannounced. Nonetheless, such a low uptake rate over the first year and a half of a two year window appears to be consistent with municipalities’ traditional aversion to debt.

The largest approved municipal infrastructure projects under the program include:

- \$114 million to the City of Toronto to be used to resurface, construct and improve roadways and sidewalks, upgrade bridges throughout the City, contribute to the Regent Park revitalization project, and expand bicycle paths throughout a number of residential areas.
- \$56 million to York Region in Ontario for the construction of a district energy plant and for the expansion of wastewater treatment and water supply systems.
- \$50 million to Blind River, Ontario to construct a solar energy generating facility.
- \$77 million to Saskatoon to improve roads, construct trunk storm sewer lines, build a new water intake treatment plant, and develop new residential green spaces.

In addition, loans ranging from \$33,000 to \$44 million have been approved for 65 municipalities from Gander to Saanich.

To be qualified for the loan program, the loans must be fully advanced by March 31, 2011 and the construction must be completed by March 31, 2012.

When the program was introduced in 2009, the Federation of Canadian Municipalities (FCM) believed that the program would help municipalities overcome the challenge of meeting requirements to share one-third of the cost of stimulus infrastructure projects at a point in the fiscal year when municipal budgets have already been approved. The program provides municipalities with simple-to-access credit at the same low interest rate available to the federal government.

The major downside of the program is that it is only a temporary measure introduced as stimulus to fight the 2009 recession. The federal government could consider options for extending and expanding this important program.

6.3 PROVINCIAL PROGRAMS

Provincial pooled borrowing programs for municipalities are offered in eight provinces across Canada, mostly through Crown financing corporations set up by the province. Although all these programs provide financing to municipal capital investments, they vary somewhat in program design.

British Columbia

The Municipal Finance Authority offers both short- and long-term financing, investment management, leasing and other financial services to communities and public institutions in BC. Since its creation, it has raised over \$5 billion for community capital projects in the province. It has saved taxpayers millions in debt repayments due to its stronger credit rating compared to individual municipalities and lower administrative fees. In addition, through the MFA, the province has played a key role in shaping and sustaining the municipal sector's credit strength.²⁶

Alberta

The mission of the Alberta Capital Finance Authority (ACFA) is to provide local authorities within the province with flexible funding for capital projects at attractive rates, consistent with their viability. Because the ACFA's debt obligations are unconditionally guaranteed by the province, it is able to borrow in capital markets at interest rates which would not be available to local authorities acting independently. ACFA makes loans to Alberta municipalities, school boards and other local entities at interest rates based on the cost of its borrowings.

Saskatchewan

The Municipal Financing Corporation of Saskatchewan (MFC) was established in 1969. The purpose of the MFC is to assist in making capital funds available for the financing of capital projects by municipalities, school divisions and health districts.

The MFC helps local authorities minimize interest costs by offering extremely competitive interest rates and the ability to repay debt prior to maturity. The interest rate is the sum of the Province of Saskatchewan's cost of borrowing, plus a small amount to cover the MFC's administrative costs. At the end of 2008, the MFC had some \$48 million of debentures issued by 68 local authorities on its balance sheet.

Ontario

Infrastructure Ontario (IO) provides long-term infrastructure financing to the public sector (not limited to municipalities). Until April 2010, IO has

²⁶ S&P (2010).

committed to the financing of some \$2.74 billion in loans to Ontario's public sector. The terms of the loans vary from five to forty years. However, the repayment period must not be greater than the expected life of the capital asset. The loan program provides various benefits, including affordable rates, no need to refinance over the life of the loan, etc.

Quebec

Financement-Québec currently offers loans only to institutions in education, health and social services, whose debt service is entirely subsidized by the government. Municipalities could eventually also have access to these loans in the future. The program offers both short-term line of credit as well as long-term loans.

New Brunswick

The New Brunswick Municipal Finance Corporation (NBMFC) offers interim financing as well as long-term financing with terms from three to thirty years. Municipalities must first apply for interim financing for any project through the Municipal Capital Borrowing Board; after it is accepted, the project may begin. Once the project is concluded and final costs are determined, arrangements for long-term financing can be made if necessary.

Nova Scotia

The Nova Scotia Municipal Finance Corporation (NSMFC) was established in 1979. The main purpose of the NSMFC is to provide low-cost, long-term capital financing for municipalities, municipal enterprises, regional school boards and district health authorities. The MFC issues in capital markets twice a year, generally in the spring and fall. The MFC offers a short-term loan program for a period no greater than one year, a long-term loan program and a bridge financing loan program for infrastructure projects.

Newfoundland and Labrador

Established in 1964, the province's municipal finance corporation provides low cost borrowing for local municipalities. However, in recent years, the province has not actively used it as a vehicle to provide financing to municipalities, and the corporation is in the process of winding up operations. The corporation will continue to collect loan receivables and repay outstanding debt until the final debt maturity in 2020.

6.3.1 Size of the Corporations

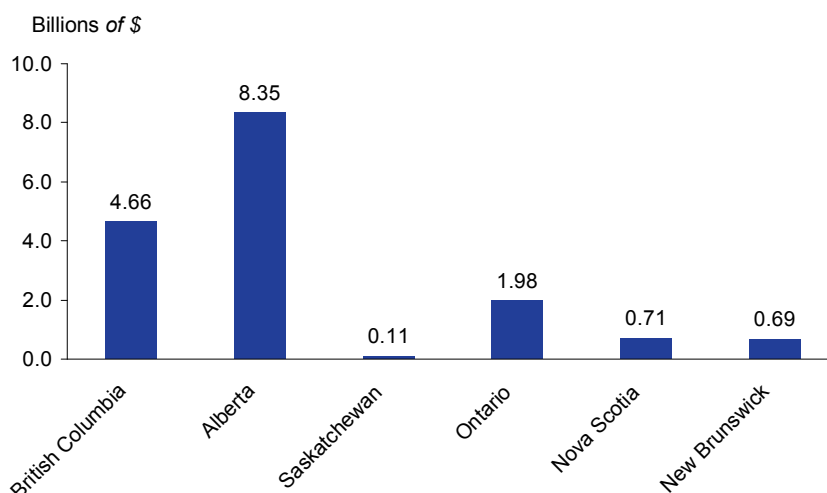
The magnitude of the programs in each province varies considerably from one to another.

6.3.1.1 Total Assets

- Alberta held the largest amount of loans to municipalities under the borrowing from the province in 2009, at \$8.4 billion.
- British Columbia held the second largest amount of municipal loans under its program, at \$4.7 billion. It was followed by Ontario with almost \$2 billion.
- Saskatchewan had the smallest size of loans issued to municipalities under its borrowing program in 2008, at \$110 million.

Figure 6

Total Loan Holdings of Provincial Municipal Borrowing Programs, 2009



Source: Altus Group Economic Consulting based on data from financial reports of municipal financing corporations across Canada

6.3.1.2 New Lending in 2009

Each year, municipal financing corporations make new loans to municipalities to finance their capital projects:

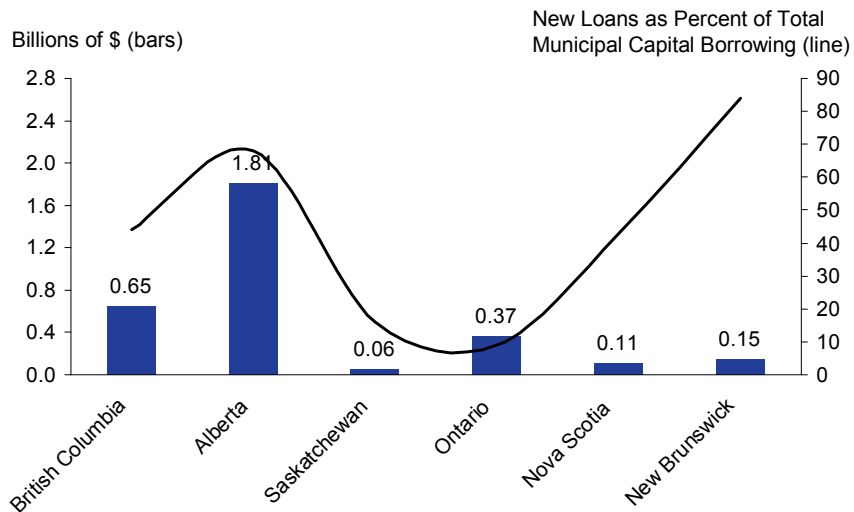
- Alberta issued the largest volume of new loans in 2009, at about \$1.8 billion. British Columbia followed closely behind, extending

some \$650 million in new loans to support municipal infrastructure investment in the province (Figure 7).

- Both of these provinces have some well-established programs with a long history of serving their municipalities' capital financing needs - the Municipal Finance Authority of British Columbia was created in 1970 and the Alberta Capital Finance Authority was established in 1956.
- Saskatchewan offered the smallest amount in new loans in that same period, at approximately \$65 million.
- Ontario, the largest economy in Canada, only issued some \$370 million in new pooled debentures to support municipal infrastructure investment in the province. In relative terms, this amount is significantly lower than British Columbia and Alberta.

Figure 7

New Loans Issued under Provincial Municipal Borrowing Programs, 2009



Source: Altus Group Economic Consulting based on data from financial reports of municipal financing corporations across Canada

Recent lending through provincial pooled programs generally has covered only a part of the municipal borrowing requirement for capital investment in

recent years, and varies widely from province to province. For example (Figure 7):²⁷

- In Alberta, which had the largest amount of new loans under the municipal lending program in 2009, the share of municipal borrowing as a percentage of the total municipal capital investment in the province was about 68%.
- New Brunswick had the highest share – about 84%;
- Both British Columbia and Nova Scotia got just under half of their financing needs for municipal infrastructure investment from the pooled debenture program.
- The share was about 16% Saskatchewan and just some 9% in Ontario during the same period.

6.3.2 Interest Rates

To achieve their mandates, most municipal financing corporations offer interest rates that are lower or at least comparable to the municipality's on their infrastructure financing:

- In general, municipal financing corporations offer short-term loans at a discount to the prime rate. For example, British Columbia's interim financing is prime rate less approximately 1.25% and Nova Scotia's short-term loan program offers the same rate as the Bank of Montreal's prime rate less 1%.
- For long-term debt, municipal financing corporations generally lend to municipalities at their borrowing costs. For example, the ACFA makes loans at interest rates based on the cost of its borrowings and the NBMFC charges municipalities an interest rate equivalent to its own interest cost.
- Because, in general, provincial governments have stronger credit ratings than municipalities within their jurisdictions, under the pooled debenture model, municipalities are able to borrow funds at lower interest rates.

²⁷ The shares are illustrative. The new loans can be used to finance a wider array of projects, such as schools and municipal government buildings, beyond basic urban infrastructure. Therefore, the actual shares of the loans under the program as a percentage of the total urban infrastructure investment could be lower than stated above.

- For example, Norfolk County had an A credit rating from S&P in 2009, which is lower than Ontario's AA- credit rating for long-term debt.

6.3.3 Projects Funded Under Pooled Debenture Financing Model

Pooled funding programs have provided the funding for many municipal infrastructure projects across Canada in recent years, including:

- In 2009, the British Columbia MFA provided \$100 million through interim financing for Whistler's Olympic Athletes' Village, as well as \$30 million through long-term financing for the City of Kelowna's wastewater treatment and facility expansion.
- During the 2008-2009 period, Saskatchewan's MFC purchased debentures which helped finance 23 projects in the province, most of which were sewer and water projects or land development projects, including a \$15 million loan to Saskatoon for the development of new residential subdivisions, and a \$9 million loan to Swift Current to develop new commercial, industrial and residential lots.
- Recently, Infrastructure Ontario financed a 20-year loan of \$1.3 million for Timmins' new community police facility and a medical specialist office building.
- Alberta's Capital Finance Authority issued a total of 235 new loans in 2009 alone to support municipal infrastructure investments.

6.4 POLICY OPTIONS

The main concern for municipalities in the use of debt to finance infrastructure investment is the cost and availability of funding. To mitigate these concerns, many provinces in Canada offer the pooled debenture program to municipalities. Although the program is a contributor for municipal capital investment, there is potential for the program to expand its role and become a main force to finance infrastructure needs across Canada. Some actions that provincial governments could take to make the program more effective for basic urban infrastructure include:

- The government could make the existing programs more defined (in terms of the types eligible projects) or create a separate program only for basic urban infrastructure. Currently, loans for basic urban infrastructure projects are mixed with investments for education,

health care and other public sector capital projects. As a result, projects have to compete across different sectors. It would be more effective if the program is divided into two – one for basic urban infrastructure (water and sewage, city roads, public transit, etc.) and one for other public sector capital investment (education, health care, social services, etc.).

- The government could put more effort into promoting the program and provide necessary education to the public. In general, Canadian municipalities are averse to debt financing of basic urban infrastructure. Nonetheless, most economists and experts in municipal finance believe that if it is done responsibly, using debt to finance infrastructure investment offers great advantages, and suggest municipalities should increase the use of this easy and efficient financing model. The provincial government could educate the general public about the advantages of debt financing and promote the pooled debenture programs, making the program widely known to the public and municipal politicians.
- For provinces with low ratios of municipal borrowing under the pooled debenture program as a percentage of the total municipal capital investment, provincial governments could increase the size of new loans available to municipalities and encourage local governments to take advantage of the program more often.
- The CMHC program is a short-term program (i.e. all loans must be fully advanced by March 31, 2011). The federal government could consider making it a permanent program and increase the amount of funding available under the program. The federal government could also create a federal agency or Crown corporation (similar to the newly created PPP Canada) with corresponding provincial counterparts to improve efficiency of pooled debenture programs across Canada.

7 CONCLUSION

Infrastructure investment plays a prominent role in the Canadian economy – in addition to its contribution to the GDP (total government infrastructure investment rose to about \$28 billion in 2009), the state of the infrastructure affects quality of life and economic development.

Over the years, local governments have been asked to finance a larger share of infrastructure investment in Canada. To provide funding for local infrastructure projects, municipalities increasingly rely on development charges. However, development charges have many deficiencies as a source of funds for infrastructure investment.

An effective alternative for financing local capital investment is to make greater use of debt financing. This report examines funding for local capital investments, ranging from water utilities, recreational centres to public transit, city roadways and other growth-related infrastructure, and finds that debt financing is appropriate for all major categories of capital investment in basic urban infrastructure.

Historically, Canadian municipalities made greater use of debt in financing infrastructure projects. However, over the years, local officials have increasingly been avoiding bonds to fund capital investment. Various financial indicators show that Canadian municipalities certainly have the capacity to use more debt to finance their infrastructure projects.

In Canada, the underutilization of debt financing for infrastructure is likely due to the lack of political will at the local government level. Municipal officials in Canada prefer to finance infrastructure on a “pay-as-you-go” basis rather than using debt.

This underutilization does not reflect a lack of options. Municipalities currently have capacity to make greater use of low-cost public sector debt, and have access to an array of debt instruments – some more appropriate than others depending on the type of infrastructure.

The cost and availability of funding can be challenging, especially for small or medium sized municipalities. The federal and/or provincial governments can play a greater role in facilitating municipal finance through making better and more extensive use of pooled debenture programs.

Appendices

APPENDIX A: REVIEW OF DEBT INSTRUMENTS

There are various types of municipal debt financing for infrastructure projects. The following summarizes common types of municipal bonds.²⁸

General Obligation Bonds

General obligation bonds are the simplest form of municipal bonds. The government receives the sum of borrowing up-front and makes regular repayments of interest and principal over a specific period, normally running in the 10 to 15 year range, with 25 years considered the general maximum.

- Advantages:
 - The general obligation bond is a standard debt-financing tool that is well established and relatively simple to employ;
 - Regular payments of principal and interest ensure that the debenture will eventually be repaid, and also enable debt capacity to be regained at a steady rate; and
 - These bonds are also backed by powers of taxation or the full faith and credit of the municipality, making it the least expensive method to borrow, with the interest rate depending on the fiscal health of the government issuing the bond.
- Disadvantage:
 - There are very few disadvantages of this type of traditional borrowing instrument. The Canada West Foundation suggests that the only problem is that it is so dominant, municipalities become too dependent on it, and so there is a need for more supplemental instruments.
 - General obligation bonds can be costly depending on the credit rating of the municipality and managing this type of borrowing can take specific expertise not always on staff in smaller municipalities.

²⁸ These data and analyses are based on three key reports on infrastructure finance options in Canada in recent years, including Canada West Foundation (2006), TD Bank (2004), and CMHC (1999).

- Appropriate Uses:
 - General obligation bonds are best used for Category 3 type infrastructure, with a long life span that provides benefits across the city. Typical candidates for bond financing include schools, general purpose buildings, police and fire stations, and growth-related transportation infrastructure.

Local Improvement or Special Assessment Debentures

Local improvement debentures are the borrowing carried out by the municipalities on behalf of a limited group of property owners for a specific infrastructure improvement within a geographical area. The debentures are funded by a special local improvement levy attached to the general property tax bill. Local improvement debentures are funded by existing property owners who directly benefit from new or upgraded infrastructure. Affected property owners are included in the decision making.

- Advantages:
 - The local improvement bonds move the government's obligation to repay the borrowing to the direct beneficiaries of the infrastructure, reducing the local government's general fiscal burden; and
 - They are a highly effective form of debt financing for infrastructure projects since they directly link the cost of an infrastructure project to the users who benefit.
- Disadvantages:
 - The scope for local improvement debenture bonds is generally limited. They can only be levied in a limited number of geographical areas, and for projects where a direct link can be established to a specific group of property owners, but where there is negligible spin-off benefits for the community as a whole.
- Appropriate Uses:
 - Local improvement debentures are best used for Category 1 type infrastructure with a very local focus. The longevity of

the special levy should be matched to the useful life of the infrastructure.

Tax-Exempt Bonds (TEBs)

Tax-exempt bonds are used extensively throughout the U.S. to finance local infrastructure. Under a bond, the interest earnings to the bondholder are exempted from federal and state income tax. As a result, the government can issue a bond at an interest rate below the prevailing market rate.

- Advantages:
 - TEBs are offered to local governments with greater access to financing at lower rates of interest, which decreases their overall borrowing costs; and
 - From an investor’s perspective, TEBs are attractive because of the tax advantage and a relatively high degree of security. TEBs are generally seen as predictable, liquid, and offering an attractive rate of return.
- Disadvantages:
 - TEBs have been criticized as being subsidies in disguise. Some critics have suggested that provincial and federal subsidies would be more transparent if made in the form of grants directed to projects where a federal and/or provincial role is warranted;
 - Only part of the federal/provincial government tax subsidy goes to the municipality. Estimates are that about two-thirds of every dollar of tax subsidy effectively goes to the municipality (in terms of reduced costs), the rest of the subsidy goes to the bondholders; and
 - Many financial experts suggest that TEBs can generate significant distortions in the bond market.
- Appropriate Uses:
 - Tax-exempt bonds are best used for Category 2 type infrastructure with a long life span that provides benefits across the city and also across a broad regional market area.

Revenue Bonds

Unlike general obligation bonds that are backed by the full faith and credit of the municipality, revenue bonds are secured by the future stream of revenues that the infrastructure project will generate. The credit quality of a revenue bond depends on the financial strength of the project.

- Advantages:
 - Because these bonds are issued with anticipated future revenues as the security, they must meet an objective market test for commercial viability. This promotes the full-cost pricing of the infrastructure that is being financed;
 - Revenue bonds shift some of the risk of financing to the bondholders, but they do so without incurring loss of ownership or control over the infrastructure; and
 - Revenue bonds do not affect the municipality's credit ratings.
- Disadvantage:
 - Because revenue bonds are secured by anticipated revenue streams that will be produced from the infrastructure itself, the bonds involve a certain measure of revenue risk in the event that the anticipated revenues do not materialize. To compensate the bondholders for this risk, revenue bonds carry a higher interest rate.
- Appropriate Uses:
 - Revenue bonds are best used for stand-alone infrastructure projects that are marketable and can survive on their own cash flow, whether that is user fees or tolls – typically Category 1 and some Category 2 type projects. Examples of such infrastructure assets include water utilities, certain public transit systems and toll roads.

Asset-Backed Borrowing

With asset-backed borrowing, municipalities do not borrow against their powers of taxation (as a general obligation bond) or even the anticipated

future revenue from an infrastructure project (as a revenue bond). Instead, the bond is secured by the existing municipal assets.

- Advantage:
 - The main advantage of this financing tool is that it will cost less for municipalities, in terms of interest rate, than the standard revenue bond.
- Disadvantage:
 - There is a very narrow range of municipal assets for which this type of bond could be issued.
- Appropriate Uses:
 - Similar to revenue bonds, this form of financing is only appropriate for assets that are very marketable (i.e., could easily be transferred to private ownership). Typically, these assets would be Category 1 and 2 type infrastructure.

APPENDIX B: BIBLIOGRAPHY

- Baldwin, J.R. and Dixon, J., *Infrastructure Capital: What Is It, Where Is It, How Much of It Is There?* Ottawa, On, Statistics Canada, Micro-economic Analysis Division, 2008, Print.
- Bird, M.R. and Wilson, T.A., *A Tax Strategy for Ontario*, Prepared for the Panel on the Role of Government in Ontario, Toronto, Canada: University of Toronto, 2003.
- Bowles, Lisa K. et al, *Impact Fees: Equity and Housing Affordability*, For U.S. Department of Housing and Urban Development, April 2007.
- Butcher, P., *Financing Municipal Infrastructure: Alternative Methods*, For the Canadian Homebuilders Association, Informetrica Limited, June 9, 1992.
- Canada Mortgage and Housing Corporation (CMHC), *Government-Imposed Charges on New Housing in Canada*, January 2009.
- , *Uses of Development Cost Charges*, July 11, 2005.
- , *Three Studies on Municipal Infrastructure: Alternative Financing Methods, Demand Management and Public-Private Partnerships*, Socio Economic Series, Issue 53, 1999.
- , *Alternative Methods of Financing Municipal Infrastructure*, 1999, Print.
- Carr, Glenna, *Public-Private Partnerships: The Canadian Experience*, Presentation to the Oxford School of Project Finance, July 9-11, 1998.
- Carson, A.S., *Public Private Partnerships in Canada: Successes, Opportunities and Challenges*, Presentation to the Hong Kong Institute of Surveyors, May 29, 2004.
- Chan, Chris et al., *Public Infrastructure Financing: An International Perspective*, Australian Government, March 2009.
- Conference Board of Canada, *Improving Infrastructure Management: Municipal Investments in Water and Wastewater Infrastructure*, November 2009.
- Côté, François, *Freshwater Management in Canada: Issues and Challenges*, Library of Parliament, January 12, 2005.
- Canadian Union of Public Employees (CUPE), "Investing in Infrastructure", 17 Dec, 2004, Web.
- El-Diraby, T., Wolters, T., and Osman, H.M., *Benchmarking Infrastructure Funding in Ontario: Towards Sustainable Policies*, Prepared for the Residential and Civil Construction Alliance of Ontario, 2009.

Fortin, M., Slack, E., Loudon, M. and Kitchen, H., *Financing Water Infrastructure*, The Walkerton Inquiry, May 2001.

Government of Canada, *A Federal Perspective on Water Quantity Issues*, Released Under the Access to Information Act, 2007, accessed on www.canadian.org.

Harchaoui, T.M., Tarkhani, F., and Warren, P., *Public Infrastructure in Canada, 1961-2002*, Canadian Public Policy, Vol. 30, No.3: 303-318, September 2004.

Infrastructure Canada, *An Evaluation of Property Taxes in Western Canada*, November 2004.

-----, *Infrastructure Financing: A Literature Review of Financing Mechanisms*, January 2004.

-----, *Literature Review of Methodology to Evaluate the State of Infrastructure*, August 2007.

Kitchen, Harry, *Can Cities Fund Their Infrastructure Needs?* Presentation at the Canadian Association of Business Economics Forum in Kingston, August 28, 2007.

-----, *Financing Water and Sewer Systems in the GTA: What Should be Done?* Prepared for the Residential and Civil Construction Alliance of Ontario, July 9, 2007.

-----, *A State of Disrepair: How to Fix the Financing of Municipal Infrastructure in Canada*, C.D. Howe Institute Commentary 241, 2006.

-----, *Municipal Infrastructure Financing: A Prescription for the Future*, Prepared for Infrastructure Canada, February 6, 2006.

-----, *Financing Local Government Capital Investment*, August 9-12, 2004.

-----, *Physical Infrastructure Financing*, Prepared for the Panel on the Role of Government in Ontario, December 4, 2003.

-----, *Financing Municipal Infrastructure in Ontario*, Prepared for the Universal Workers Union, Local 183, June 2002.

-----, *Municipal Bond Financing: Issues and Alternatives*, Prepared for the Ontario Home Builders Association, 1990.

Kitchen, H. and Slack, E., "Special Study: New Finance Options for Municipal Governments", *Canadian Tax Journal*, Vol. 51, No.6, 2003.

Lampert, Greg., *Restoring the Balance: Financing Municipal Infrastructure Required for New Development*, Prepared for Canadian Home Builders' Association, January 2000.

McFarlane, S., and Nilsen, E., *On Tap: Urban Water Issues in Canada*, Canada West Foundation, August 2003.

Meakin, Stephanie, *Municipal Water Issues in Canada*, Government of Canada, April 1993.

Mirza, M.S. and Haider, M., *The State of Infrastructure in Canada: Implications for Infrastructure Planning and Policy*, Infrastructure Canada, March 2003.

Poisson, Yves., *Public Infrastructure in Canada: Status Priorities and Planning*, Public Policy Forum, March 2002.

National Round Table on Sustainable Infrastructure, *An Innovative Approach to Sustainable Infrastructure in Canada*, January 2007.

Province of Ontario, *Debt and Financial Obligation Limits*, Municipal Act, 2001, Ontario Regulation 403/02, 2001.

-----, *ReNew Ontario 2005-2010 Strategic Highlight: A Five-Year Infrastructure Investment Plan to Strengthen Our Economy and Communities*, Ministry of Public Infrastructure Renewal, 2005.

-----, *Building a Better Tomorrow: An Infrastructure Planning, Financing and Procurement Framework for Ontario's Public Sector*, Toronto: Ministry of Public Infrastructure Renewal, 2004, Print.

Renzetti, Steven, "Water Supply and Sewage Treatment: Costs, Prices, and Distortions", *The Canadian Journal of Economics*, Vol. 32, No.3, Blackwell Publishing, May 1999.

-----, *Wave of the Future: the Case for Smarter Water Policy*, Toronto: C.D. Howe Institute, 2009, Print.

The Residential and Civil Construction Alliance of Ontario (RCCAO), *The Infrastructure Funding Deficit: Time to Act*, June 2006.

Roy, Francine, *From Roads to Rinks Government Spending on Infrastructure in Canada, 1961 to 2005*, Ottawa: Statistics Canada, Micro-economic Analysis Division, 2008, Print.

Saskatchewan Urban Municipalities Association, *Discussion Paper: Municipal Bonds*, June 2009.

Skaburskis, A. and R. Tomalty, *The Effects of Property Taxes and Development Cost Charges on Urban Development: Perspectives of Planners, Developers, and Finance Officers in Toronto and Ottawa*, *Canadian Journal of Regional Science*, XXIII:2, 303-325, 2000.

Slack, Enid, *Financing Municipal Services and Infrastructure in Canada*, Presentation to Eko Akete Summit IV, July 2008.

Slack, E. and Bird R., *Financing Urban Growth through Development Charges*, Canadian Tax Journal, Vol. 39, No.5, 1991.

Standard & Poor's (S&P), *Report Card: Canadian Municipalities Manage to Stay the Course Despite the Recession*, June 25, 2009.

-----, *Research Update: Municipal Finance Authority of British Columbia 'AAA' Ratings Affirmed On Strong Loan Portfolio Quality*, March 2010.

Swain, Harry, *Watertight: the Case for Change in Ontario's Water and Wastewater Sector*, Toronto: Water Strategy Expert Panel, 2005, Print.

Tassonyi, Almos, "Municipal Budgeting," *Canadian Tax Journal*, Vol. 50, No.1: 181-198, Web, 2002.

TD Economics, *A Choice Between Investing in Canada's Cities or Disinvesting in Canada's Future*, TD Bank Financial Group, 2002.

-----, *Mind the Gap: Finding the Money to Upgrade Canada's Aging Public Infrastructure*, TD Bank Financial Group, May 20, 2004.

Vander Ploeg, Casey G., *Municipal Infrastructure in Canada: Issues of Terminology and Methodology*, Infrastructure Canada, November 2003.

-----, *New Tools for New Times: A Sourcebook for the Financing, Funding and Delivery of Urban Infrastructure*, Canada West Foundation, September 2006.

Watson, William, "Quebec's Siege of User Fees on Public Services", *National Post*, Apr 2010, Web.