Delivering the Goods

Infrastructure and Alternative Revenue Sources for the City of Edmonton

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EXECUTIVE SUMMARY

Edmonton's Infrastructure Challenge

In November 2006, the City of Edmonton released its *Long Range Financial Forecast* for the 2007-2016 period. At that time, the City of Edmonton reported infrastructure needs totalling $10.4 billion over 2007-2016. However, the City only had funding for $5.152 billion. This left a cumulative funding shortfall of $5.248 billion. In 2008, an infrastructure update reported that the funding shortfall has exploded to $19.207 billion over the 2008-2017 period. To meet this challenge on a "pay-as-you-go" basis, Edmonton's property taxes would have to quadruple. Efforts by the City of Edmonton, past tri-partite national infrastructure programs, the GST rebate, recent fuel tax revenue sharing agreements, and increased capital grants have allowed the City to boost its investment in infrastructure, but much of the City's reported needs remain unmet. This is not a problem going away anytime soon.

Edmonton's Revenue Profile

The revenue sources available to the City of Edmonton are very restricted. Operating funding comes from only three sources – property taxation, user fees, and other income. Grants constitute only a very small portion of operating revenue. External capital funding comes from two primary sources – capital grants (including fuel tax revenue sharing) and developer cost charges. The key problem here is a lack of *diversity* in the tax tools Edmonton can employ. The City is reliant on a set of funding tools that are relatively *inelastic.* This means that the revenues produced do not tend to grow well over time – they fail to capture a fair portion of the economic activity occurring within the City, they fail to keep pace with population growth, and they fail to compensate for inflation and the continually escalating cost of providing services and infrastructure.

Can Edmonton Meet the Challenge?

Edmonton's current set of funding sources cannot easily generate a growing stream of revenue to meet the infrastructure challenge:

- From 1990-2007, real per capita tax revenue for the City of Edmonton grew by only 5.7%. This pales in comparison to the growth in federal and provincial tax revenues. Over the same time period, federal tax revenues grew by 25.3% and provincial tax revenue (excluding oil and gas royalties) grew by 44.5%.
- From 1990-2007, the average Edmontonian paid $2,873 more in taxes to all orders of government. Of this amount, 53.1% accrued to the federal government while 45.3% accrued to the provincial government. Only 1.5% of the increase in taxation over the last 18 years – $45 – has gone to Edmonton City Hall. (All amounts in real per capita dollars.)
- In 2006, the average Edmonton homeowner paid $1,259 in municipal property tax on a home assessed at $219,000. In 2007, property taxes rose to $1,376. However, most of this increase was offset by growing personal disposable incomes. The median disposable income in Edmonton was $62,295 in 2006, but is estimated at $67,947 in 2007. Thus, the additional property taxes paid by an average household living in an average single family home – relative to growth in income – amounted to only $3 or 25¢ per month.
- At the same time, the personal income tax that had to be paid to the federal and provincial governments on rising median incomes was $948. This increase in tax revenue occurred even with new tax deductions and increases in existing deductions.

The Search for Alternatives

It is unreasonable to expect the City of Edmonton to effectively meet the infrastructure challenge if it remains so singularly dependent on the property tax. The infrastructure funding challenge constitutes a powerful argument for new directions and an expanded set of financing and funding tools. Many of Edmonton's competitor cities, whether in Europe, Asia, or the US, have significantly greater access to a wider range of taxes and/or tax revenue sharing. A diverse set of funding tools is required to implement emerging best practices in infrastructure provision. A good municipal funding system is both diverse and balanced, providing adequate and reliable revenues, good revenue growth over time, as well as equity, efficiency, simplicity, and accountability. No single tax source can achieve all these criteria.

Ideal or "Out-of-the-Box" Options

Ideal financing, funding, and delivery alternatives combine to ensure that infrastructure is provided both *effectively* and *efficiently*. Ideal revenue sources build sustainability into the provision of infrastructure over the long-term by helping fund infrastructure

and keeping demand in check. An ideal system would allow the City of Edmonton to follow a best practices model in infrastructure provision. More important, it would allow the City to do so by collecting a fair portion of local economic activity. It is important to understand how tax revenues grow. Revenues can grow when tax rates are moved upwards – a tax increase – or they can grow as the economy expands. Because the City of Edmonton is so dependent on the property tax, its revenues can grow primarily through the first method only. An ideal funding system would have at least some built in "escalators" allowing Edmonton's revenues to grow in tandem the local economy.

- *Public-private partnerships (PPPs):* PPPs see the public sector partnering with the private and non-profit sectors to deliver both services and infrastructure. On the operating side, PPP is a wide-spread and systematic commitment to private and non-profit involvement through competitive tendering. On the capital side, PPP goes beyond the traditional "bid-build" relationship and involves private participation in the design, financing, building, owning, and even operation of infrastructure assets. Possible savings that could be redirected to increase capital investment is $146.8 million in 2007. However, this is based on very generous assumptions and a simple benchmarking against the best results seen in the US and the UK. The savings could be more modest.

- *"Visitor-specific" selective sales taxes:* Many large cities around the globe use a set of selective sales taxes to generate revenue from "luxury" goods and services, or those disproportionately consumed by visitors to the city. Examples include an accommodations or lodging tax and taxes on restaurants, bars, pubs, casinos, and "off-sales" of beer, wine, and liquor. Visitors use municipal services and infrastructure but do not contribute to the residential property tax base out of which services and infrastructure are funded. These taxes address this problem. A 2% lodging tax and a gambling and liquor tax set at 5% of the provincial tax rate would have generated $32.0 million for Edmonton in 2007.

- *"Vehicle-specific" selective sales taxes:* Since 60% of Edmonton's infrastructure funding "gap" is in transportation, attention needs to focus on various "vehicle-specific" sales taxes that can be earmarked for transportation infrastructure. Examples include a local option fuel tax, a local vehicle registration tax, a special sales tax on vehicle sales, and local taxes on car rentals, parking, and even a separate property tax on vehicles. All of these are "user pay" taxes, which are more efficient than general tax funding. They help fund infrastructure supply at the same time as they keep demand in check. For the City of Edmonton, a basket of "vehicle-specific" selective sales taxes that included a 5¢ fuel tax, a $30.00 annual vehicle registration fee, a 1% sales tax on new vehicles, and a $20.00 tax on all license renewals could have generated $137.0 million in 2007.

- *Index grants to provincial personal incomes and corporate earnings or to provincial personal and corporate income tax revenues:* This option would see the province sharing with the City of Edmonton a portion of the personal and corporate income tax revenue it collects by tying annual operating and capital grants received by the City to growth in these two taxes. Grants could be indexed to provincial personal and corporate income tax revenue or indexed directly to personal incomes and corporate earnings. In 1992, provincial operating and capital grants to Edmonton were 3.80% of all personal and corporate income taxes collected by the province and 0.339% of all personal incomes and corporate earnings. Indexing against the 3.80% ratio would have meant an additional $65.3 million in grants for Edmonton in 2007. Indexing against the 0.339% ratio would have meant another $225.1 million for 2007.

- *A "SPLOST" retail sales tax or "penny" tax:* In the US, the "special purpose local option sales tax" or SPLOST is emerging as one of the most powerful ways to fund infrastructure. The tax is a local general retail sales tax applied at the local level. The tax is set at 1% and applies to a broad basket of goods and services. The tax rate is capped, imposition is by voter-approval in a referendum, revenues are earmarked for specific infrastructure projects, and the tax sunsets every five or six years. To impose the tax, governments prepare a list of projects to be funded by the tax. This list and a proposal for the tax are then placed on the ballot at a regular municipal election. If approved by voters, the tax is imposed, the projects proceed, and government follows up with an annual report on the tax to ensure accountability. The process repeats every five or six years. A 1% SPLOST tax could have generated $171.4 million in Edmonton for 2007. But as the economy expands, the retail sales tax base also grows. If Edmonton's retail sales tax base continues to grow over the next ten years as it has in the previous ten, the revenue produced could reach be $391.1 million by 2017. Over the 2008-2017 period, the average annual revenue yield could reach $277.5 million.

Doable or "In-the-Box" Options

All of the options above require a fundamental shift in thinking on the part of City Council and citizens, or approval from the provincial government. While the City of Edmonton should actively pursue these options, they do not provide much traction in the short-term. Thus, a second list of alternatives was developed that are more achievable within the confines of the *Municipal Government Act.*

- *Seek incremental "wins" under the status quo:* Dramatic policy shifts are difficult to secure. One option, favoured by many municipalities, is to simply "muddle-through" and seek incremental changes that do not dramatically alter the status quo. This includes such things as seeking out more grants and lobbying for another but much longer-term tri-partite national infrastructure program. In the case of Edmonton, a 20% increase in grants would have yielded another $72.3 million in 2007. However, most of the options here carry their own difficulties. In the end, there may be very little gained by pursuing alternatives within the fiscal status quo.

- *"User-pay-first" policy:* Certain infrastructure assets are inherently marketable, opening up the possibility of direct user fee funding and self-financing debt without the need to spend tax dollars. A consensus over user pay would see user fees applied to every infrastructure asset and service possible, with the aim of correct pricing and full cost recovery of operations, maintenance, and future capital. The second best choice is an "indirect" user fee or "user pay" tax. General taxation is the funding choice of last resort. Here, increased usage of local improvement levies might offer some potential. If Edmonton were to collect these levies at the same rate as in the past, another $23.4 million could have been generated in 2007. Advances in digital communications and GPS technology are allowing governments to apply user pay in areas previously "off-limits." An emerging example is the concept of a "vehicle-miles-traveled" or VMT tax. With VMT vehicles are metered – a direct user pay system for roadway infrastructure. The potential impact in savings could run into the billions of dollars.

- *Earmarking of property tax revenues:* With earmarked property taxes, individual property tax bills show the portion of municipal property tax dedicated to general operations and the portion for infrastructure. Earmarking can help lower political and public resistance to property taxes. Earmarking an annual 1% property tax increase to fund additional debt could help lever $1.1 billion in borrowing over the 2008-2017 period. In 2007, each 1% increase in property tax is worth $7.6 million.

- *"Smart" debt:* The idea behind "smart" debt is to build a consensus around an appropriate and sustainable level of tax-supported debt over the long-term, recognizing that borrowing is a legitimate part of any long-term capital financing plan. Currently, the cost of servicing general purpose debt in Edmonton is low. In 1990, the cost of general purpose debt servicing was 12.3% of operating revenue. The ratio was 5.7% over the 1990-2007 period. If the first ratio were in play in 2007, the City would be carrying an additional $2.650 billion in debt. If the second ratio were in play, the City would be carrying an additional $929.3 million.

- *A "standing" or "go-forward" property tax policy:* Relative to many other big cities in western Canada and other municipalities within the Edmonton metropolitan area, residential and business property taxes in Edmonton are below average. Further, municipal property taxes in Edmonton have been falling as a percentage of aggregate personal disposable incomes. The idea of a "go-forward" property tax policy is to have municipal property taxes collected at an agreed upon percentage of personal disposable incomes over the long-term. Between 1990-2007, municipal property tax collections in Edmonton were 3.31% of aggregate personal disposable incomes. In 2007, the ratio had fallen to 2.88%. If the ratio had not fallen, the City of Edmonton would have received an additional $97.7 million in 2007 alone. To maintain competitiveness, the taxes collected should not be completely out of sync with the average collected by other municipalities in the metro area and those levied by the other six big western cities.

Conclusion

Closing an infrastructure funding gap that reaches $2 billion annually is a mammoth assignment. To accomplish the task, a new financial partnership needs to be struck with the province that sees the City receiving additional taxation authority and/or expanded tax revenue sharing. The City of Edmonton will need to take a leadership role in working toward a more diverse set of tax tools and continue building the case for change. Because this is a long-term project, the City must also consider how it can maximize the limited revenue sources currently at its disposal. To be sure, this does not constitute a sustainable solution for the long-term. However, to the degree that Edmonton can make forward progress over and above what other cities are able to do, it will secure a competitive advantage by building a better and higher quality urban environment at the same time as it continues working toward a new era that holds more promise.

INTRODUCTION

In Spring 2006, the City of Edmonton's department of Corporate Business Planning (Office of Infrastructure and Funding Strategy) invited the Canada West Foundation to prepare a paper on alternative funding mechanisms for infrastructure, paying particular attention to the unique challenges confronting the City of Edmonton. The result is *Delivering the Goods: Infrastructure and Alternative Revenue Sources for the City of Edmonton,* which was originally intended to provide part of the research base for the City's emerging *Sustainable Infrastructure Financial Strategy (SIFS).* Work under the strategy comprised six distinct phases:

- *Phase 1:* Assessing existing municipal plans and strategies, and integrating them into a larger and longer-term strategy.
- *Phase 2:* Identifying the future funding needs for new and existing infrastructure.
- *Phase 3:* Assessing current sources of infrastructure funding, highlighting best practices in infrastructure financing, funding, and delivery, and identifying alternative revenue sources.
- *Phase 4:* Assessing the effectiveness of various options via an investment model.
- *Phase 5:* Evaluating the various options and identifying the most effective alternatives.
- *Phase 6:* Developing an implementation plan for the final recommendations.

OBJECTIVES OF THE PAPER

The Canada West Foundation has designed this discussion paper with three overarching objectives in mind:

- *First, the paper discusses the reported infrastructure funding gap facing the City of Edmonton.*
- *Second, the paper presents a detailed profile of the current funding sources used by the City, and assesses the capacity of these sources to meet the infrastructure challenge.*
- *Third, the paper discusses emerging best practice in infrastructure provision, and presents a "top-ten" list of financing and funding alternatives to better meet the City of Edmonton's infrastructure needs.*

NEW TOOLS FOR NEW TIMES: Summary

In September of 2006, the Canada West Foundation released *New Tools for New Times: A Sourcebook for the Financing, Funding, and Delivery of Urban Infrastructure*. The purpose of this study was to identify and assess the various ways that cities around the globe finance, fund, and deliver infrastructure, recognizing that the current methods in play in Canada are insufficient and inadequate to meet the nation's mounting urban infrastructure challenge. *New Tools for New Times* has a number of objectives:

- Serve as a "one-stop-shop" for information on the full range of traditional and innovative infrastructure financing, funding, and delivery mechanisms around the world.
- Develop a broad framework for the theory of innovative infrastructure finance, and present information on best practices.
- Develop a taxonomy of municipal infrastructure and traditional and innovative infrastructure financing, funding, and delivery tools.
- Highlight the advantages and disadvantages of each tool, barriers to their usage, and their applicability. In other words, what tools fit with what infrastructure, and why?
- Explore the winning conditions for the use of innovative infrastructure finance in general, and each tool in particular.
- Examine the tools used in Canada's largest cities.
- Explore implications for federal, provincial, and municipal governments.

The report is divided into two parts. Part I presents an overview of the innovative urban infrastructure financing, funding, and delivery tools that form the toolkit from which Canadian decision-makers can draw, and the winning conditions that facilitate their usage. Part I also includes a summary of the main tools currently used in Canada's largest cities and a discussion of the implications of an expanded toolkit for Canadian governments. Part II presents a detailed discussion of the urban infrastructure financing, funding, and delivery tools identified in Part I. Both parts are available for download at *www.cwf.ca*.

FIGURE 1: Highlights of Infrastructure Needs and Funding Gap for 2008-2017

2008-2017 TOTAL FUNDING GAP: $19.207 Billion

CHART 1: Growth of the Infrastructure Funding Gap From 1998 to 2008 (Billions of Nominal $)

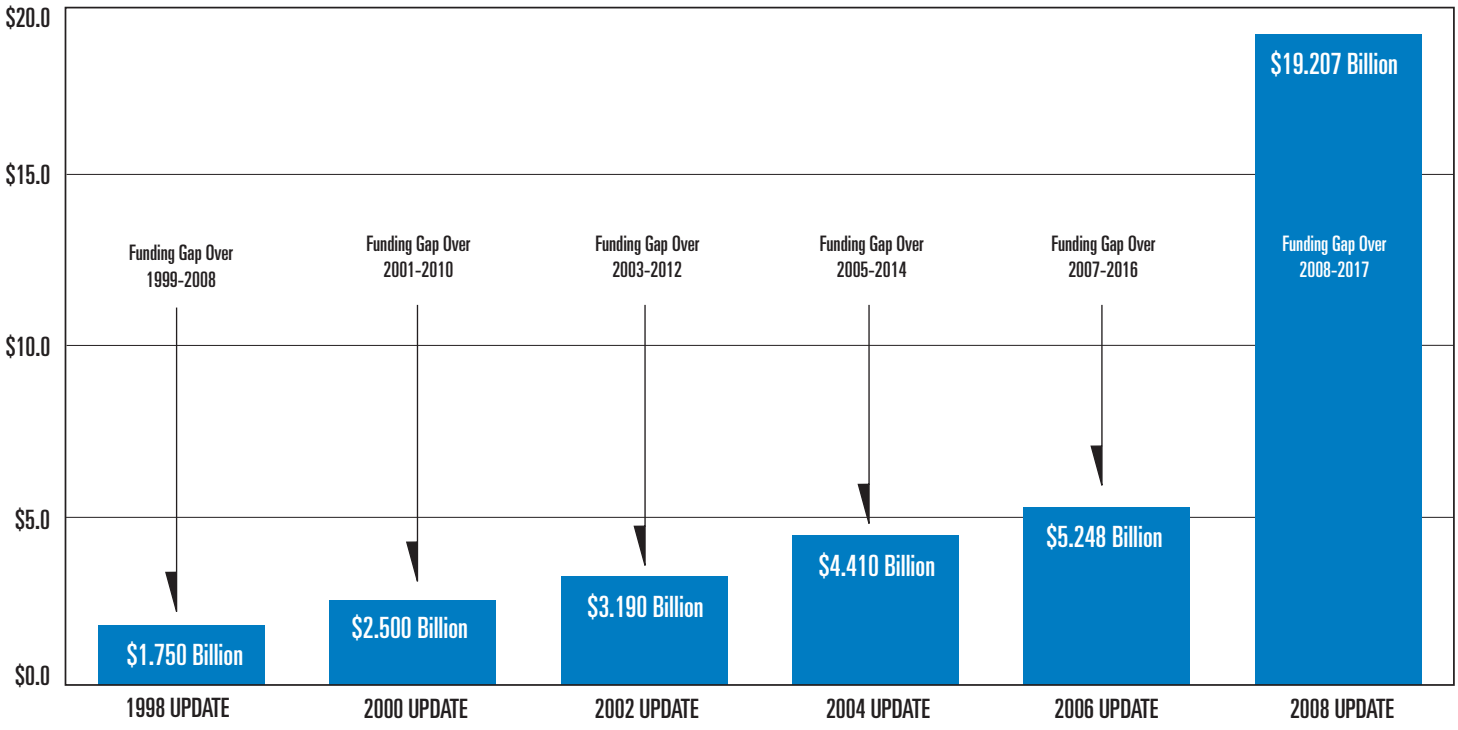
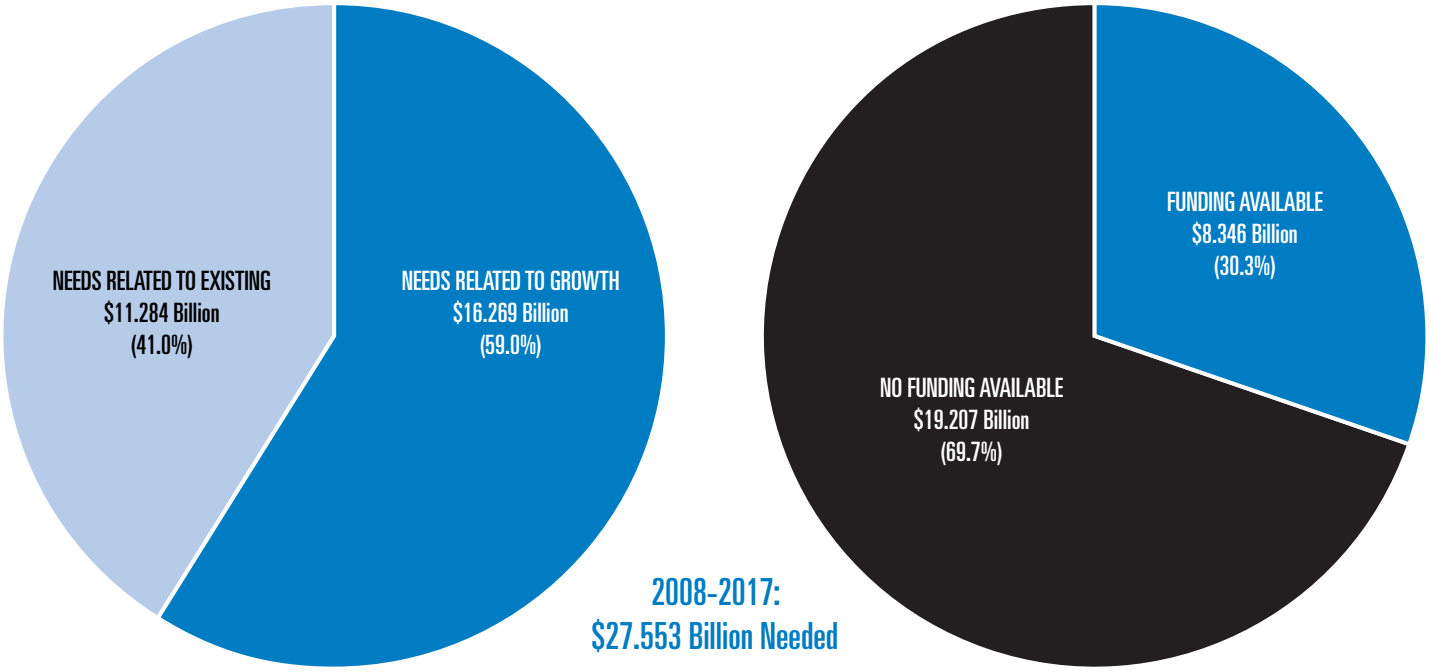


CHART 2: Total Infrastructure Needs and Funding Available, 2008-2017 (Billions of Nominal $)



SOURCE: Developed by Canada West Foundation from Annual Financial Reports of the City of Edmonton (1998-2007) and a 2008 Update from the Office of Infrastructure.

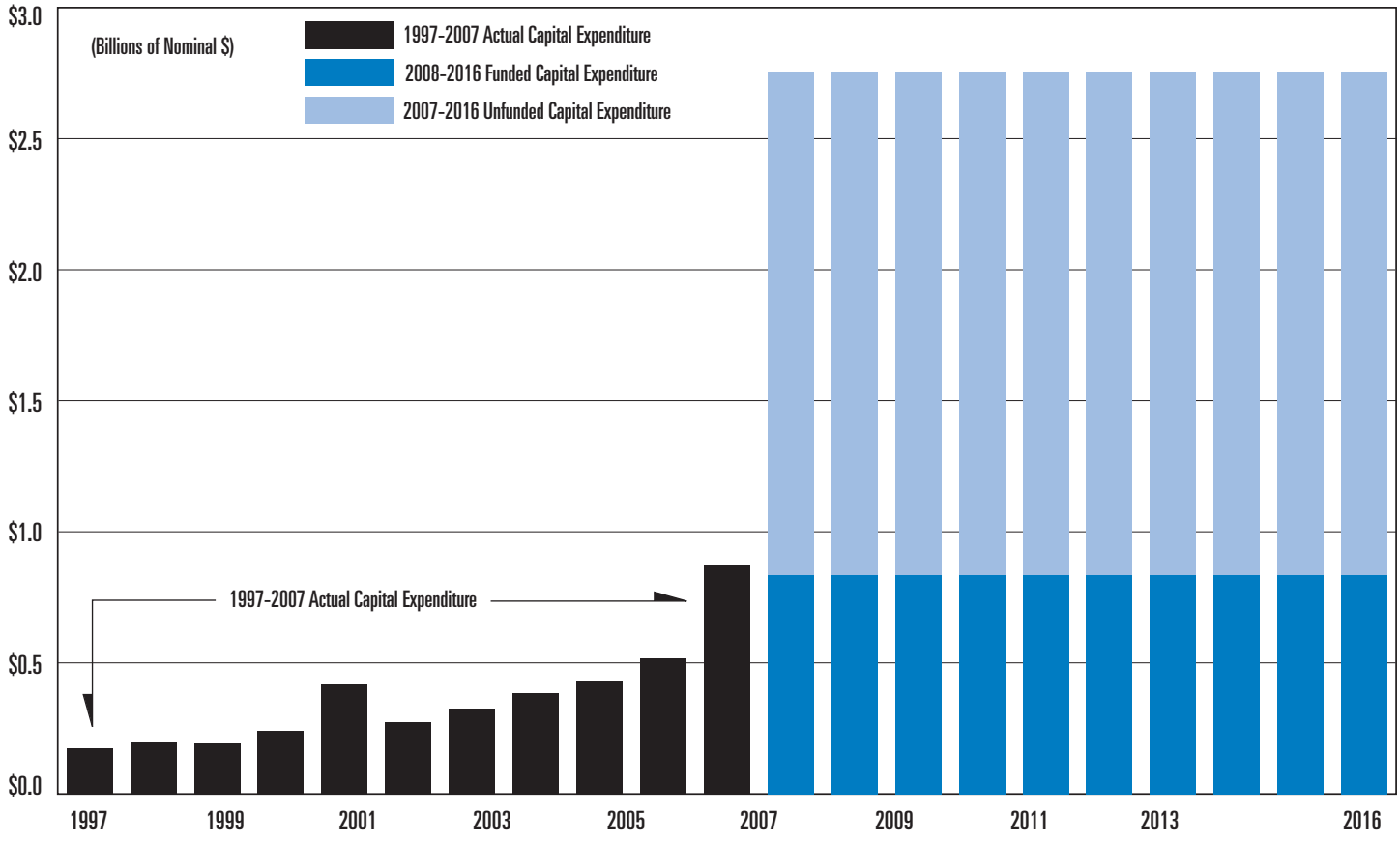
FIGURE 2: Putting the Annual Infrastructure Funding Gap in Context

2008-2017 ANNUAL FUNDING GAP: $1.9207 Billion

CHART 1: Relative Measures of Edmonton's Annual Infrastructure Funding Gap, 2007-2016

2007 Population of the City of Edmonton	775,969	Annual Funding Gap Per Capita	$2,475
2007 Actual Operating Revenue	$1.793 Billion	Annual Funding Gap as a % of Operating Revenue	107.1%
2007 Actual Capital Revenue	$445.7 Million	Annual Funding Gap as a % of Capital Revenue	430.9%
2007 Actual Operating and Capital Revenue	$2.239 Billion	Annual Funding Gap as a % of Total Revenue	85.8%
2007 Actual Property Tax Collections	$650.1 Million	Annual Funding Gap as a % of Taxes	295.4%
2007 Actual Operating Expenditure (Excluding Interest)	$1.255 Billion	Annual Funding Gap as a % of Operating Expenditure	153.0%
2007 Actual Capital Spending Expenditure	$870.8 Million	Percent Increase Required to Meet the Annual Funding Gap	220.6%
2007 Actual Operating and Capital Expenditure	$2.126 Billion	Annual Funding Gap as a % of Total Expenditure	90.3%

CHART 2: Comparison of Annual Capital Expenditures Needed to Close the Gap (2008-2017) Compared to Actual Expenditures (1997-2007)



SOURCE: Developed by Canada West Foundation from Annual Financial Reports of the City of Edmonton (1998-2007) and a 2008 Update from the Office of Infrastructure.

METHODOLOGY

Delivering the Goods builds off previous Canada West Foundation research conducted for *New Tools for New Times.* This report, published in 2006, is a comprehensive sourcebook developed by the Foundation that assesses over 100 specific traditional and innovative mechanisms used around the globe to finance, fund, and deliver local infrastructure. *Delivering the Goods* takes the unique circumstances in play in Edmonton, and seeks to match them with the most promising alternatives found in *New Tools for New Times.*

The work conducted by the Foundation for the City of Edmonton under this initiative was comprised of two parts. First, Foundation researchers gathered information and data on Edmonton's current sources of infrastructure financing and funding. This data was then assessed and a detailed revenue and expenditure profile constructed *(see Appendix A, page 56).* Second, Foundation researchers took the list of tools in *New Tools for New Times* and selected 10 of the most promising options. All of this material was gathered together into several presentations. These presentations were then used as the basis for discussions between Foundation staff and members of the city administration. The results of these presentations and the feedback from administration form the feedstock of this discussion paper.

EDMONTON'S INFRASTRUCTURE CHALLENGE

1. The 2008-17 Infrastructure Funding Gap

In November 2006, the City of Edmonton's department of Corporate Business Planning (Office of Infrastructure and Funding Strategy) released a *Long Range Financial Forecast* outlining the financing and funding needs of the City's infrastructure over the 2007-2016 period. Similar updates have been issued once every two years since 1998. In the 2006 update, the City reported its total infrastructure needs for 2007-2016 at $10.4 billion – both for new assets and the rehabilitation of existing assets. At that time, the City reported funding for only $5.152 billion, leaving a cumulative funding "gap" of $5.248 billion over the next ten years. This funding "gap" is defined as the value of new infrastructure and the renewal of existing infrastructure that is needed, but cannot proceed due to a shortage of funding.

In 2008, the City of Edmonton estimates its infrastructure funding "gap" at a whopping $19.207 billion over the 2008-2017 period *(Chart 1, Figure 1, page 2).* This amount is dramatically higher than earlier amounts reported by the City. The 1998 update showed a ten-year funding "gap" of $1.750 billion. This rose to $2.500 billion in 2000, $3.190 billion in 2002, $4.410 billion in 2004, and $5.248 billion in 2006. In 2008, the City's infrastructure funding gap has literally exploded. Clearly, infrastructure is a huge problem, and one that is not going away anytime soon.

It is outside the scope of this study to verify Edmonton's reported $19.207 billion infrastructure funding "gap." Our purpose is to explore better ways and means of addressing infrastructure financing and funding. At the same time, it might be helpful to place some context around the current amount reported by the City. First, it is helpful to benchmark against infrastructure funding "deficit" estimates produced by others. In 2003, the Department of Civil Engineering at McGill University conducted a national survey, and estimated that the funding needed to upgrade existing infrastructure across all municipalities in Canada could reach $400 billion by 2020 (Vander Ploeg 2003). With 2.35% of the national population, Edmonton's total per capita share of this future $400 billion unfunded infrastructure liability would be about $9.4 billion. The 2008 update produced by the City pegs future needs up to 2017 for existing assets at $11.284 billion. While the City's estimate is higher, it is not completely out of the ballpark.

Of course, the benchmarking above speaks only to the funding required to rehabilitate existing assets. Combining the $11.284 billion needed for existing assets with the $16.269 billion needed to accommodate growth yields a total infrastructure need of $27.553 billion over the 2008-2017 period *(Chart 2, Figure 1, page 2).* However, the City only has funding for $8.346 billion, leaving a $19.207 billion shortfall.

Second, it is important to remember that the $27.553 billion infrastructure need speaks to the next ten years, which for Edmonton, could be dramatically different than the past ten years. A simple analysis of population growth makes the point. From 1998-2001, the City added 10,000 people annually. From 2001-2005, the City added 12,000 annually. From 2005-2006, the population grew by 20,000. In 2007, population growth blew past 45,000. From 1998-2007, the City of Edmonton grew by 140,000, with one-third of that growth occuring in 2007 alone.

If the current pace of growth continues, the population of Edmonton could grow by some 450,000, reaching past 1.2 million from its current 776,000. Even with the average growth rate of 21.9% from 1998-2007, the City will be closing rapidly on one million. Unprecedented expansion in the Alberta oil sands and Edmonton's position as the gateway to the north has had no small impact on recent growth of the City. In all likelihood, that growth will accelerate in the future, putting incredible pressure on existing infrastructure systems and requiring massive investments in new infrastructure. Simply ask the citizens of Ft. McMurray, AB.

Third, all orders of government and the private sector are currently engaged in a very high level of investment and capital work across the province, particularly in and around the oil sands. This has led to intense competition for design and construction capacity, materials, and labour shortages. All have led to serious cost escalation. In the end, the $19.207 billion figure can be debated, but such debate is moot. Even if the funding "gap" is half that size, it still represents a monumental – if not mammoth – challenge.

2. The Relative Size of the Funding "Gap"

The annualized funding shortfall – $1.9 billion – represents about $2,500 for each man, woman, and child in Edmonton *(Chart 1, Figure 2, page 3).* If this annual amount were to be paid out on a "pay-as-you-go" basis, today's property taxes would have to quadruple. The City's level of capital investment, which has been steadily rising since 2002, would have to increase dramatically, and do so over the long-term *(Chart 2, Figure 2, page 3).*

3. Recent Changes are Insufficient

Beginning in the early 1990s, federal, provincial, and municipal governments in Canada embarked on several high-profile policies intended to increase the level of public investment in municipal infrastructure. Federally, these policies have included the creation of several tri-partite national infrastructure programs, implementation of a GST rebate, and a recent agreement to share a portion of the federal fuel tax with municipalities. In the province of Alberta, recent initiatives include the sharing of a portion of the provincial fuel tax with the cities of Edmonton and Calgary, increased capital grants, and the new MSI program (Municipal Sustainability Initiative). None of this has arrested growth in Edmonton's infrastructure funding "gap" *(Figure 3, page 6).* Clearly, the situation calls for new approaches and directions.

4. Analysis of the Funding Gap

Before beginning the search for new approaches, it is important to understand where the infrastructure funding gap is most prevalent. This helps direct our view toward certain options. The most important distinction concerns the service functions experiencing the greatest shortfall *(Figure 4, page 7).* Municipal budgets include five basic elements: protection (policing, fire, and EMS); transportation (roadways and public transit); PRSCC services (parks, recreation, social, community, and cultural services); utilities and environment (water, sewerage, solid waste, storm drainage); and general government (office buildings, land development, municipal fleet, IT, communications).

- *Transportation:* Transportation is the largest unfunded category, accounting for 59.4% of the $19.207 billion funding shortfall. Public transit and LRT extension is responsible for $7.551 billion of the funding gap (39.3%) while roadways and related infrastructure is responsible for $3.853 billion (20.1%). Over the next ten years, transportation infrastructure alone requires an investment of $11.404 billion for which funds are not available.

- *PRSCC Services:* Parks, recreation, social services, and cultural and community facilities (PRSCC) represent the second largest need at 15.5% of the funding shortfall. The shortfall in funding is largest for recreation, community, and cultural facilities at $1.643 billion. The shortfall for public parks is $1.340 billion.

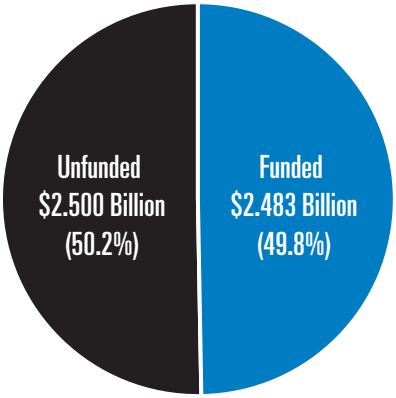
- *Local Neighbourhoods:* Local communities house a complex web of infrastructure assets from local streets, sidewalks, and streetlights to drainage connections and playgrounds. This set of infrastructure requires $2.076 billion over the next ten years for which funding is not available.

- *General Government:* Unfunded infrastructure needs for general government operations is $2.061 billion or 10.7% of the funding gap. Half of this amount is the shortfall in funding for civic buildings ($952 million).

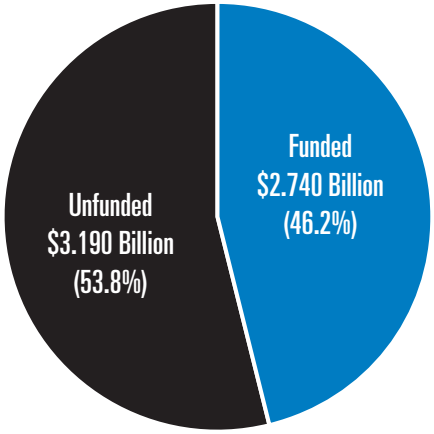
- *Environment and Utilities:* Critical environmental protection infrastructure such as sewerage, waste, and storm drainage represents only a small portion of the funding challenge at $536 million or 2.8% of the total.

- *Protection:* The unfunded infrastructure and equipment needs of municipal policing, fire, and EMS are marginal at $147 million or 0.8% of the $19.207 billion total.

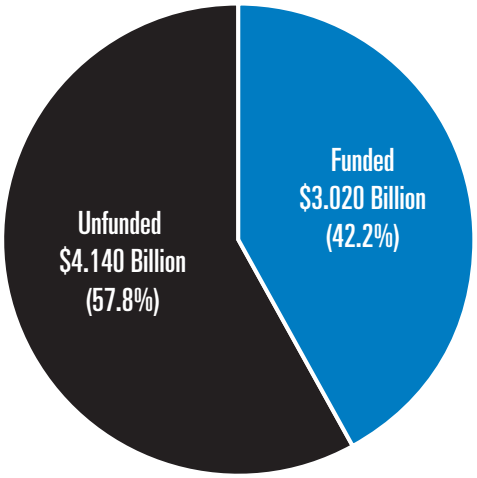
FIGURE 3: Impact of Recent Policy Changes on Edmonton's Infrastructure Funding Gap



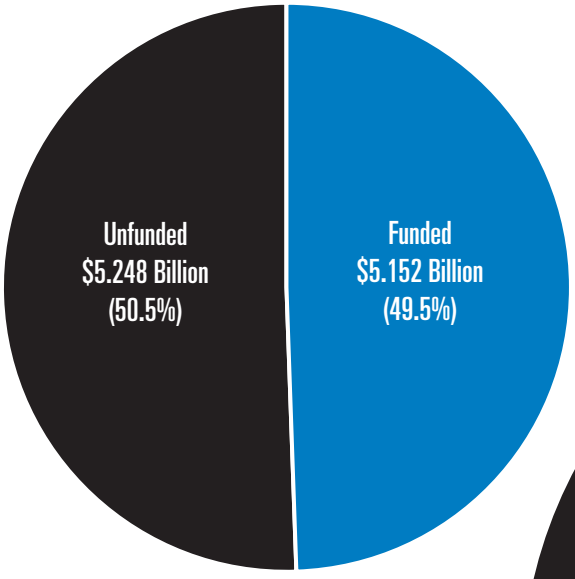
2000 UPDATE: $4.983 Billion
Funded and Unfunded Projects From 2001-2010



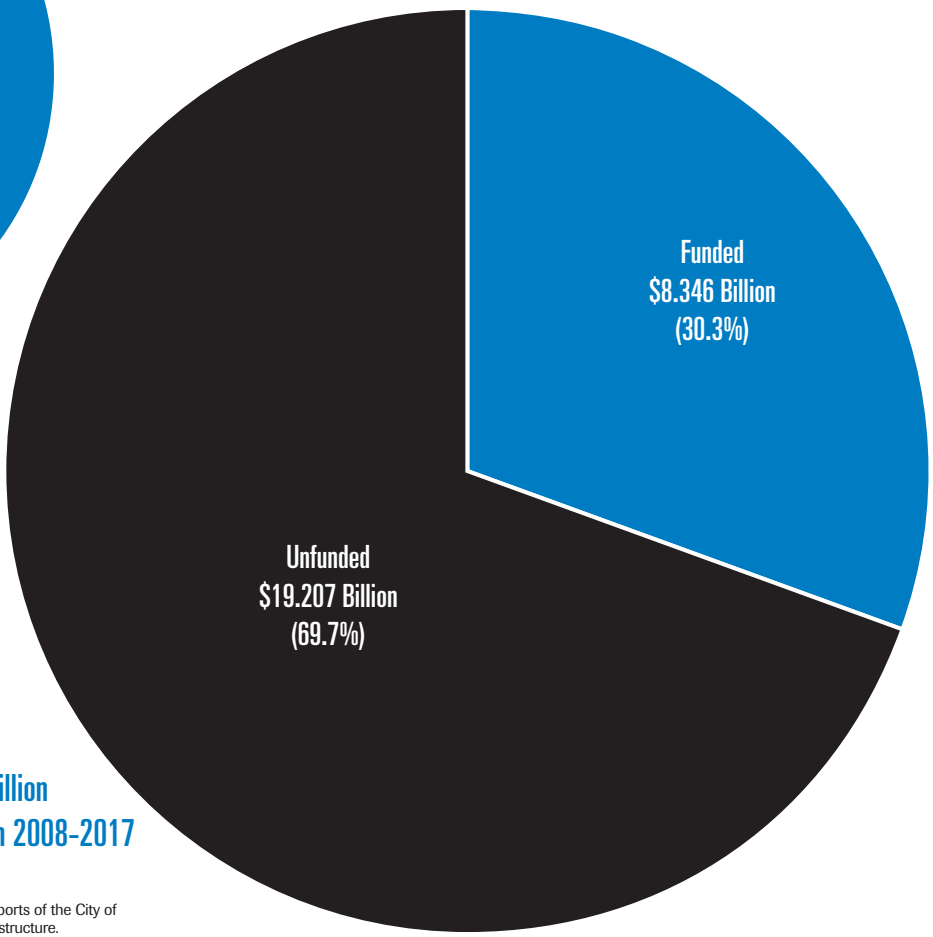
2002 UPDATE: $5.930 Billion
Funded and Unfunded Projects From 2003-2012



2004 UPDATE: $7.160 Billion
Funded and Unfunded Projects From 2005-2014



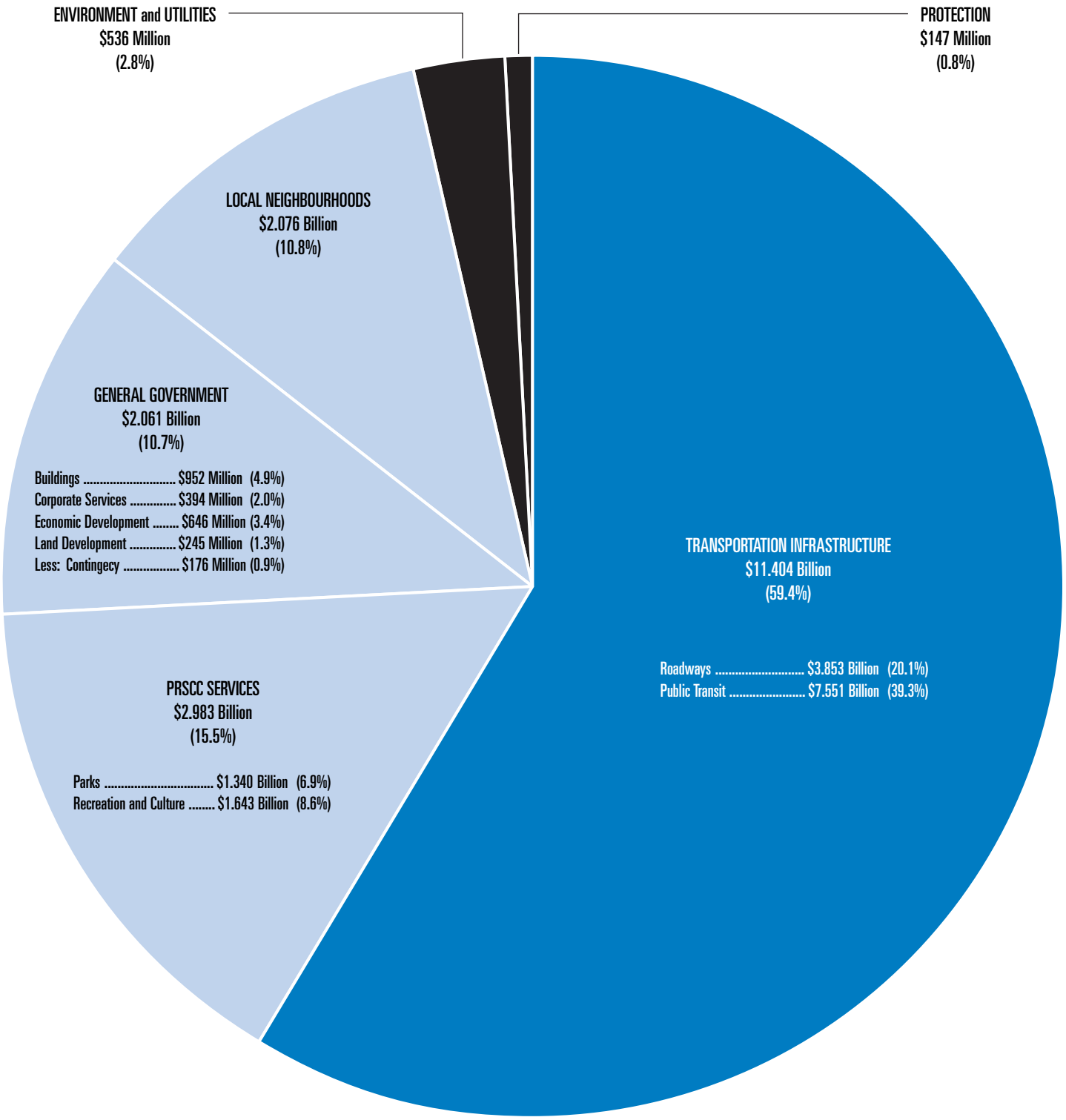
2006 UPDATE: $10.400 Billion
Funded and Unfunded Projects From 2007-2016



2008 UPDATE: $27.553 Billion
Funded and Unfunded Projects From 2008-2017

SOURCE: Developed by Canada West Foundation from Annual Financial Reports of the City of Edmonton (1998-2007) and a 2008 Update from the Office of Infrastructure.

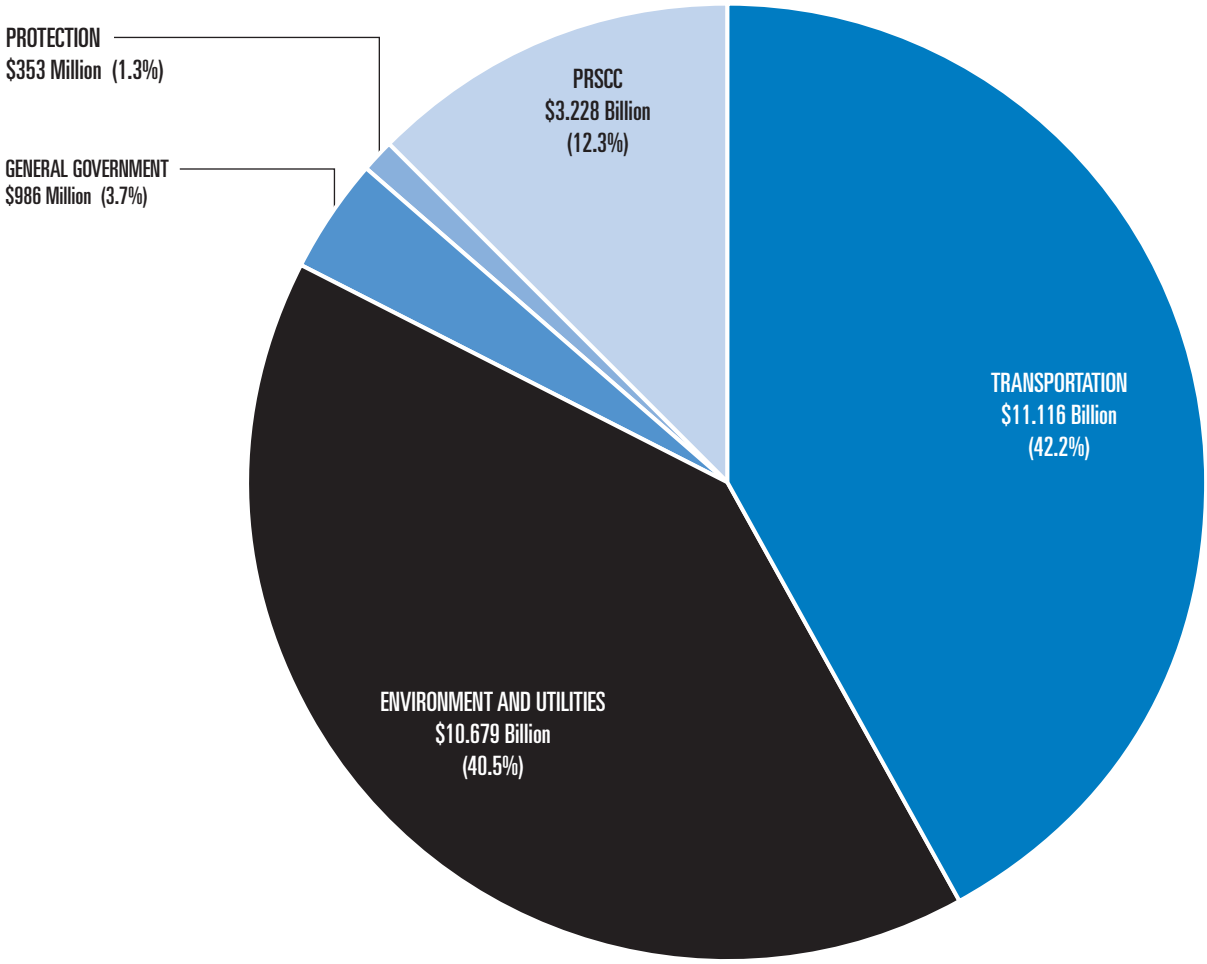
FIGURE 4: Analysis of the 2008-2017 Infrastructure Funding Gap by Function



SOURCE: Developed by Canada West Foundation from Annual Financial Reports of the City of Edmonton (1998-2007) and a 2008 Update from the Office of Infrastructure.

2008-2017 TOTAL FUNDING GAP: $19.207 Billion

FIGURE 5: Asset Profile of the City of Edmonton, 2007
(% of Total Physical Infrastructure Assets by Function)



Transportation ..... $11.116 Billion	
Roadways	$6.537 Billion
Sidewalks	$1.459 Billion
Bridges and Structures	$785 Million
Streetlighting	$531 Million
Traffic Signals and Signs	$156 Million
Parking Meters	$3 Million
Total Roadways	$9.471 Billion
LRT Line	$520 Million
LRT Facilities	$315 Million
LRT Fleet	$163 Million
LRT Equipment	$95 Million
Bus Fleet	$318 Million
Bus Trolley System	$115 Million
Bus Facilities	$72 Million
Bus Stops	$26 Million
Bus Equipment	$15 Million
Bus Communications	$6 Million
Total Transit	$1.645 Billion

PRSCC Services ..... $3.228 Billion	
Horticulture & Turf	$1.516 Billion
Access	$260 Million
Play Equipment & Furniture	$134 Million
Sports Fields	$54 Million
Buildings & Structures	$86 Million
Cemeteries	$3 Million
Total Parks	$2.053 Billion
Sports/Fitness Facilities	$219 Million
Leisure & Senior Centres	$211 Million
Arenas	$152 Million
Golf Courses	$6 Million
Total Recreation	$588 Million
Total Social Services	$356 Million
Public Libraries	$128 Million
Attractions & Facilities	$103 Million
Total Culture & Community	$231 Million

Protection ..... $353 Million	
Police Buildings	$123 Million
Police IT	$17 Million
Police Communications	$21 Million
Police Vehicles	$16 Million
Other Police Equipment	$8 Million
TOTAL Police	$185 Million
Fire and EMS Buildings	$83 Million
Fire Response Vehicles	$51 Million
EMS Response Vehicles	$6 Million
Other Fire and EMS Equipment	$28 Million
TOTAL Fire and EMS	$168 Million

General Government ..... $986 Million	
Offices and Buildings	$676 Million
General Fleet & Equipment	$180 Million
Computers and Data	$122 Million
Communications	$8 Million

Environment & Utilities .... $10.679 Billion	
Storm Drainage	$4.854 Billion
Sanitary Sewer	$1.553 Billion
Combined Systems	$1.310 Billion
Service Connections	$2.167 Billion
Wastewater Treatment	$542 Million
Total Drainage	$10.426 Billion
Processing Facilities	$170 Million
Transfer Stations	$18 Million
Landfills and Related	$40 Million
Operations Facilities	$10 Million
Other Solid Waste	$15 Million
Total Solid Waste	$253 Million

SOURCE:

Derived by Canada West Foundation from City of Edmonton's Office of Infrastructure, 2008.

2007 TOTAL ASSETS: $26.362 Billion

5. Asset Profile of the City of Edmonton

According to the 2008 infrastructure update, the City of Edmonton owns physical infrastructure assets with a current replacement value of $26.362 billion *(Figure 5, page 8).* Within this inventory, transportation infrastructure constitutes the single largest share of assets at $11.116 billion (42.2%) followed closely by environmental and utility infrastructure at $10.679 billion (40.5%). PRSCC infrastructure is the third largest asset category, carrying a replacement value of $3.228 billion (12.3%). Infrastructure for general government purposes and protection are marginal as a proportion of the total physical assets owned by the City.

The infrastructure asset profile of the City of Edmonton and the service functions facing the largest funding shortfalls do not always closely match. For example, environmental and utility infrastructure represents a very large share of the total assets owned by the City (40.5%) but only a small part of the total funding shortfall ($536 million or 2.8%). Likewise, transportation infrastructure represents about 40% of the assets owned by the City but constitutes 60% of the funding gap.

Understanding the disjoint is important for two reasons. First, it clearly demonstrates the superiority and sustainability that results from user pay systems of funding. In Edmonton, as with many other cities, environmental and utility operations are funded entirely through user fees. This is no small consideration. It is much easier to finance and fund infrastructure improvements for municipal utilities as opposed to general infrastructure that relies on the tax base. Citizens understand that user fees relate to levels of personal usage and must cover the operating and maintenance costs of the system as well as future infrastructure needs. If utility infrastructure does run into a problem, there is generally less opposition to the solution – increasing user fees and issuing self-sustaining debt. As a result, these infrastructure systems are generally in better shape and rarely face a funding shortfall.

On the other hand, roadways and related infrastructure are entirely funded from general tax revenue, and public transit receives a large tax subsidy. Solving a funding shortage in transportation infrastructure entails "across-the-board" tax increases or the issuing of tax-supported debt. Neither option tends to be politically popular. Federal and provincial grants are another funding possibility, but decision-making here is out of the hands of civic officials. As a result, these infrastructure systems run a much higher risk of under funding.

Second, the disjoint underscores just where the search for revenue alternatives must begin. The data show that the funding challenge clearly lands on infrastructure assets that are funded through taxation – either through local taxation or provincial and federal taxation in the form of capital grants. As such, the search for better revenue alternatives is intimately connected with the question of taxes – particularly municipal taxation authority and tax revenue-sharing with other orders of government.

SUMMARY: The City of Edmonton reports infrastructure needs totalling $27.553 billion over the next ten years to accommodate growth and rehabilitate existing assets. However, there is only $8.346 in dedicated funding, leaving a $19.207 billion "gap." Recent initiatives such as provincial and federal fuel tax-sharing, GST rebates, tri-partite infrastructure programs, and additional capital grants have led to increased infrastructure investment. But in the next ten years, the City of Edmonton can only fund only about one-third of the infrastructure it requires. Transit and roadways are the single largest challenge. More broadly speaking, the challenge lies in all forms of tax-supported infrastructure as opposed to that funded through user fees.

EDMONTON'S REVENUE AND EXPENDITURE PROFILE

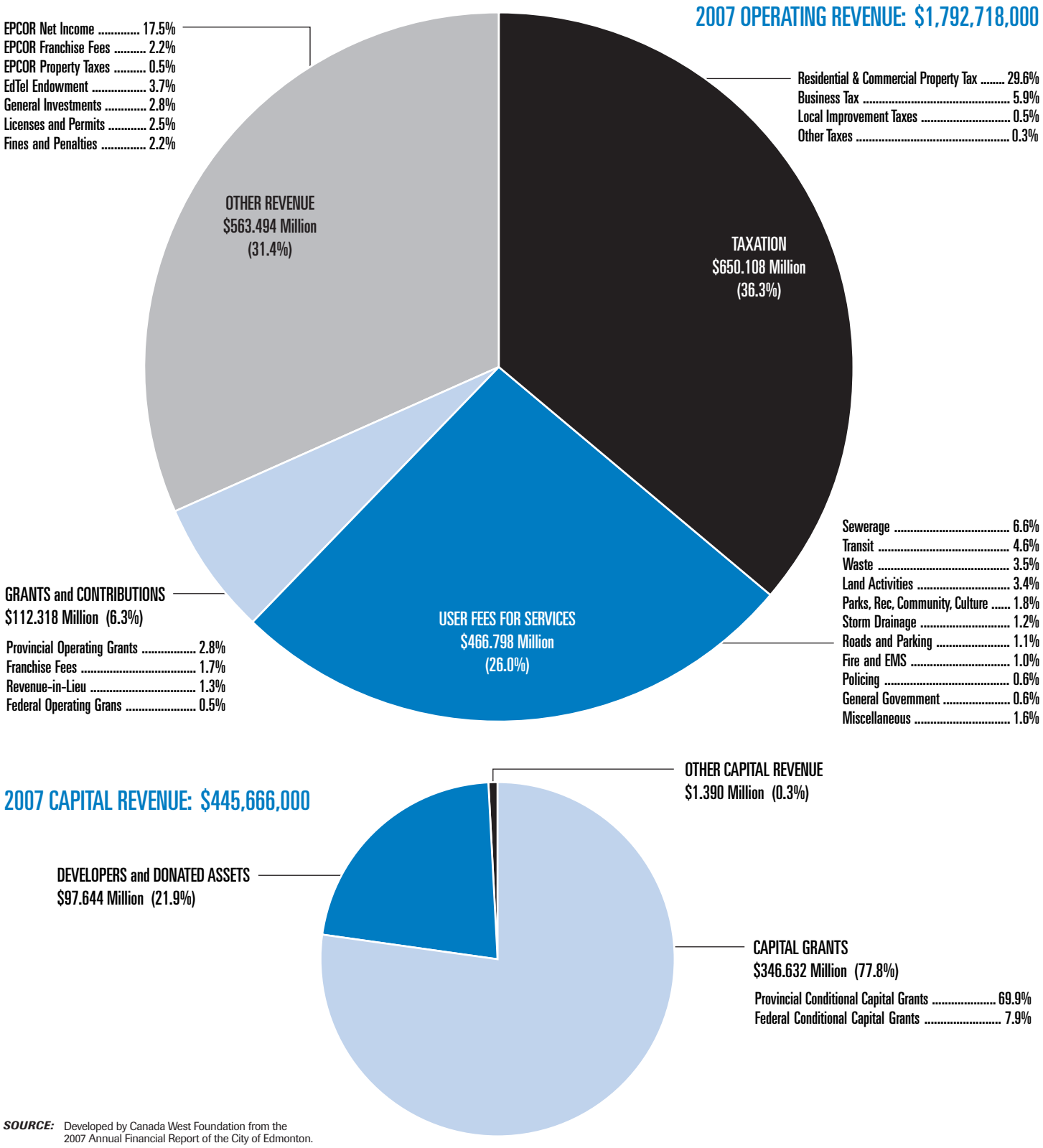
1. Revenues

Like most Canadian cities, the revenue sources available and subsequently employed by the City of Edmonton are very restricted. For the operating budget, revenues collected by the City come from four sources *(Figure 6, page 10).*

- *Taxes:* Property taxes constitute the single largest income source for the City of Edmonton. In 2007, property taxes accounted for 36.3% of all operating revenue. Property taxation includes the general residential and non-residential property tax (29.6% of operating revenue), a separate business occupancy tax (5.9%), and local improvement taxes (0.5%). The city collects only about $4.7 million annually in other taxes (0.3%).

- *User Fees:* In 2007, user fees collected by the City for goods and services purchased by citizens accounted for 26.0% of operating revenue. Half of all user fees are generated by three sources – sewerage, transit, and solid waste. (User fees for water and power accrue to EPCOR and not the City of Edmonton.)

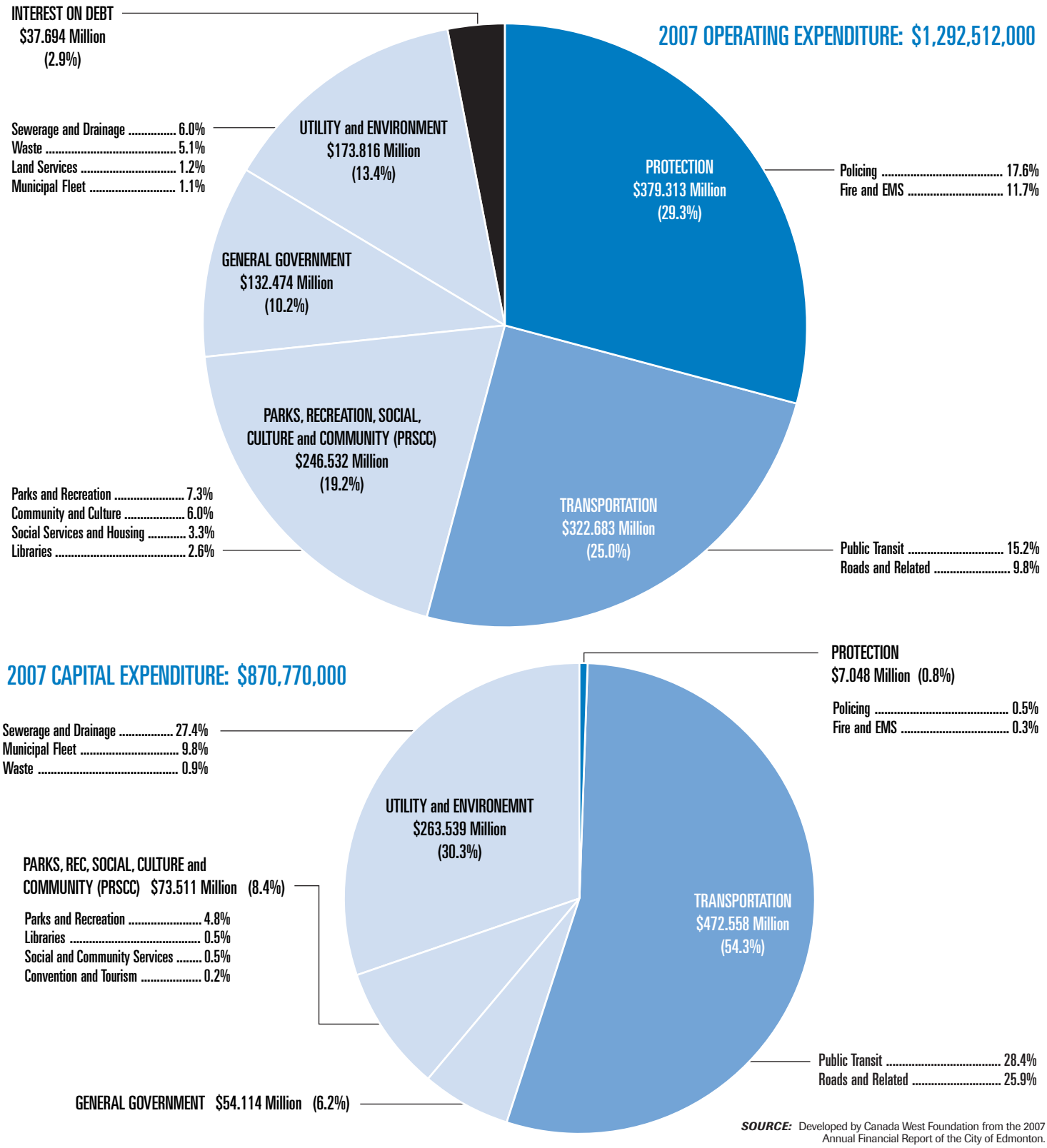
FIGURE 6: Revenue Profile of the City of Edmonton, 2007
(Actual Financial Results at the end of fiscal year 2007)



SOURCE: Developed by Canada West Foundation from the 2007 Annual Financial Report of the City of Edmonton.

2007 TOTAL REVENUE: $2,238,384

FIGURE 7: Expenditure Profile of the City of Edmonton, 2007
(Actual Financial Results at the end of fiscal year 2007)



SOURCE: Developed by Canada West Foundation from the 2007 Annual Financial Report of the City of Edmonton.

2007 TOTAL EXPENDITURE: $2,163,282,000

■ *Other Revenue:* Unlike many Canadian cities, the City of Edmonton collects significant revenue traditionally classified as "other" or "miscellaneous." Most important here is the revenue generated by EPCOR, a municipal corporation wholly-owned by the City of Edmonton. EPCOR provides electrical and water services to Edmonton residents, as well as those in other jurisdictions across the province. The amounts generated from EPCOR vary from year to year, but in 2007 EPCOR contributed $361.9 million or 20.2% of all operating revenue (the amount is comprised of net income, taxes, and franchise fees). A significant source of other income is the earnings on the Ed Tel Endowment Fund, and other investments held by the city. This income accounted for 6.5% of all operating revenue in 2007. The remaining items — fines, penalties, licenses, permits — account for only 4.7% of operating revenue.

■ *Operating Grants and Contributions:* The three sources above account for almost 95% of all operating revenue. The remainder is filled in with federal and provincial operating grants, revenue-in-lieu of property tax received by the City for federal and provincial properties, and various franchise fees paid in lieu of tax or for specialized services. In 2007, all of these contributions accounted for 6.3% of total operating revenue. Operating grants contributed 3.3% and other contributions contributed 3.0%. In terms of relative value, operating grants are a minor contributor to Edmonton's total operating budget.

The funding of the capital budget is even more restricted than the operating budget. Dedicated sources of *external* capital funding are limited to conditional grants, development cost charges (DCCs), and a small amount of miscellaneous.

■ *Capital Grants and Contributions:* The single largest source of dedicated external capital funding is federal and provincial grants and contributions (77.8% of all capital revenue in 2007). All of these amounts are conditional and tied to specific infrastructure projects. These revenues include grants broadly speaking, as well as revenues received under federal and provincial fuel tax sharing agreements.

■ *Development Cost Charges:* Most of the remaining external capital funding comes from developers of new properties. This revenue is typically in the form of a cash contribution or the value of assets built by developers and then subsequently handed over to the City of Edmonton, which then operates and maintains the infrastructure.

These two *external* sources of capital funding do not typically cover all capital expenditures from year to year. The shortfall is closed by a set of *internal* revenues or transfers from the operating and reserve funds. Borrowing can also be used. In 2007 for example, external capital fund revenues were $445.7 million, while total capital expenditures were $870.8 million *(see Figures 6 and 7).* The $425.1 million shortfall in the capital fund was met by transferring $163.9 million from operations, $18.5 million from reserves, and new borrowing of $246.7 million.

2. Expenditures

Like revenues, expenditures are broken into an operating component (including minor and major infrastructure maintenance) and a capital component (construction of new assets and major renewal, rehabilitation, and reconstruction of existing assets). On the operating side, there are six major expenditure categories:

■ *Protection:* The single largest operating expenditure for the City is policing, fire response, and EMS services. Together, these three comprised 29.3% of all operating expenditures in 2007 (policing at 17.6% and fire and EMS at 11.7%).

■ *Transportation:* The second largest operating expenditure is transportation. In 2007, 25.0% of all operating expenditure occurred in this category. Here, public transit is the largest expenditure (15.2% of all operating expenditure) followed by maintenance of the municipal roadway network (9.8% of all operating expenditure). Together, protection and transportation constitute half of Edmonton's operating expenditure.

■ *PRSCC Services:* Parks and recreation, and social, community, and cultural services comprised 19.2% of all spending in 2007. Most of this is equally split between parks and recreation at 7.3% and culture and community (including libraries) at 8.6%. Social service spending makes up the difference (3.3%).

■ *Environment and Utilities:* Spending on sewerage, solid waste, and storm drainage accounted for 13.4% of all operating expenditure in 2007. This is somewhat smaller than amounts registered in other cities since Edmonton's water treatment and distribution is provided by EPCOR.

■ *General Government:* The costs of general government and administration accounted for one-tenth of all spending in 2007 (10.2%). This is generally in line with other western cities, if not somewhat below average.

■ *Interest on Debt:* The last operating expenditure is the annual cost of interest paid on long-term debt issued by the City to construct new infrastructure or rehabilitate existing assets. In 2007, interest on long-term debt constituted only 2.9% of operating expenditure.

The same six expenditure categories are in play for the capital side of the budget, but there is one major difference to keep in mind. It is important to note that 85% of all capital expenditures in 2007 occurred in only two areas – transportation (roadways and transit) and environment and utilities (sewerage, solid waste, and storm drainage). In 2007, this left only 15% for the areas of protection, general government, parks and recreation, etc. The single largest operating expenditure area – protection – involves the least capital spending. Thus, certain municipal functions are very "operating heavy" while others are "capital heavy."

3. Budget Balances and Debt

A key determiner of the fiscal "health" of any government is whether or not a "surplus" or "deficit" is recorded at the end of the fiscal year (the budget balance) and whether or not the amount of outstanding long-term debt is increasing or decreasing, both in absolute terms and relative to the operating revenue out of which debt servicing (principal repayment and interest) must be paid. For the City of Edmonton, this requires a close look at the budget balance for 2007 as well as those recorded in previous years.

In 2007, the City of Edmonton recorded a consolidated budget surplus (both operating and capital) of $75.1 million *(Chart 1, Figure 8, page 14).* With total revenue for the year at $2.248 billion, the consolidated surplus is about 3.5% of total revenue. Over the past 18 years (1990-2007) the City has recorded a cumulative total of $2.517 billion in consolidated supluses, or about $140 million annually *(Chart 2, Figure 8, page 14).* This equates to about 7.5% of the annual funding "gap" for infrastructure over the 2008-2017 period.

Of course, all of this leads to an important question. Doesn't the City of Edmonton have at least some fiscal room to reduce the annual infrastructure funding shortfall? After all, a $312.8 million consolidated surplus was registered in 2003, and the 2006 surplus came in at $478.8 million.

But this conclusion would be erroneous. Rather than focusing on the "consolidated" budget balance recorded by the City, it is more helpful to focus on what might be termed the "effective" budget balance. The "effective" budget balance can be loosely defined as the amount of cash remaining after operations and capital that can be used to provide exclusively municipal services and infrastructure.

The item of particular concern here is the net income earned by EPCOR. The City's *Consolidated Schedule of Revenue and Expenditure* records this amount as accruing entirely to the City. But all of this revenue is not necessarily available for municipal services. The City of Edmonton receives only a portion of EPCOR's net income in the form of a dividend. The difference between the net income and the dividend is retained in EPCOR and used to help finance the corporation's physical assets or increase the City's equity stake in the corporation. In other words, the total amount of net income earned by EPCOR does not really exist for usage by the City of Edmonton for municipal services. EPCOR must retain at least some of its net income for its own future capital requirements. Removing these retained earnings from the consolidated budget surplus – the "effective" budget balance – reveals a much different picture.

In 2007, the "effective" budget balance was a $110.4 million deficit, and tax and self-supported debt rose by $214.8 million *(Chart 1, Figure 8, page 14).* In fact, over the past 18 years (1990-2007) the City of Edmonton has recorded eight "effective" deficits and ten "effective" surpluses. Adding them together over the 1990-2007 period yields a cumulative "effective" budget balance. This amount totals $129.8 million or an average of $7.2 million annually *(Chart 2, Figure 8, page 14).* This is 0.3% of total 2007 operating and capital revenue.

In sum, the City of Edmonton does not possess huge budget surpluses that can be readily applied to reduce the infrastructure funding "gap." Rather, the City operates within a very tight fiscal margin. This fiscal margin is reduced even further when considering the Ed Tel Endowment Fund. In calculating the consolidated budget balance, all earnings of the Ed Tel Endowment Fund are reported as revenue. However, the City also prudently retains a portion of these earnings in the Fund to inflation-proof the financial assets. This reduces the actual "effective" budget balance even further. But this is also sound financial practice. Only a regular habit of reinvestment will ensure a growing and sustainable stream of earnings from the Fund over the long-term.

FIGURE 8: Consolidated and Effective Budget Balances

CHART 1: Final Results of the 2007 Fiscal Year

BUDGETARY ITEM	AMOUNT (000s)
2007 Total Operating Revenue	$1,792,718
2007 Total Program Expenditure	($1,254,818)
Equals the Program Surplus (Deficit)	**$537,900**
Less Interest on Long-Term Debt	($37,694)
Equals the Operating Surplus (Deficit)	**$500,206**
2007 Capital Revenue	$445,666
2007 Capital Expenditure	($870,770)
Equals the Capital Surplus (Deficit)	**($425,104)**
Operating Balance	$500,206
Plus the Capital Balance	($425,104)
Equals the Consolidated Surplus (Deficit)	**$75,102**
Less Amounts Retained in EPCOR	$185,477
Less Amounts Retained in Non-Profit Housing Corporation	$33
Equals the Effective Budget Surplus (Deficit)	**(110,408)**

Since 1990, the City of Edmonton has reported sizeable consolidated budget surpluses, averaging $140 million annually. While this number remains the primary focus for assessing year end fiscal results, other factors should not be ignored. A more accurate measure is the "effective" budget balance, which removes one-time revenues and amounts retained in EPCOR and other commercial enterprises. These surplus funds are not readily available for municipal activities. Effective budget balances for the City of Edmonton have been much more modest. From 1990-2007, the effective budget balance has only averaged about $7 million annually. This represents one-third of one percent (0.3%) of total operating and capital revenues in fiscal year 2007.

CHART 2: The Consolidated Balance vs. The Effective Balance (1990-2007 in 000s)

YEAR	CONSOLIDATED BALANCE	EFFECTIVE BALANCE	DIFFERENCE
1990	+ $43,530	– $69,822	– $113,352
1991	+ $15,958	– $84,446	– $100,404
1992	+ $91,436	+ $14,201	– $77,235
1993	+ $26,595	– $24,533	– $51,128
1994	+ $98,507	– $21,473	– $119,980
1995	+ $57,819	– $85,313	– $143,132
1996	+ $127,894	+ $79,385	– $48,509
1997	+ $103,178	+ $53,750	– $49,428
1998	+ $162,738	+ $108,653	– $54,085
1999	+ $87,830	+ $47,558	– $40,272
2000	+ $156,539	+ $77,787	– $78,752
2001	+ $247,897	– $44,776	– $292,673
2002	+ $158,411	+ $68,410	– $90,001
2003	+ $312,800	+ $7,223	– $305,577
2004	+ $126,819	+ 41,332	– $85,487
2005	+ $145,458	+ $80,975	– $64,483
2006	+ $478,894	– $8,657	– $487,551
2007	+ $75,102	– $110,408	– $185,510
Total	+ $2,517,405	+ $129,846	– $2,387,559
Annual Average	+ $139,856	+ $7,214	– $132,642

CHART 3: A Brief Note on Municipal Accounting and Edmonton's Fiscal History

MUNICIPAL ACCOUNTING: To improve the comparability of fiscal data between cities and ensure consistency in the data over time, the Canada West Foundation follows a rigorous standard when using data reported in municipal financial reports. Our purpose is to arrive at a consistent measure of the "consolidated" budget surplus (or deficit) and the "net change" in operating, capital, and reserve funds, and net debt levels. To calculate the consolidated budget surplus, all interfund transfers are eliminated from revenues and expenditures. Contributions from the operating fund to the capital fund and amounts entering reserves are not treated as expenditures, and amounts from reserves are not treated as revenue. Failing to eliminate interfund transfers can obscure revenues and expenditures to the point where surplus and deficit lose all meaning. Second, the full value of annual capital revenues and expenditures are included when calculating the consolidated surplus or deficit. To avoid double counting, capital depreciation and amortization charges are removed from operating expenditures. This approach provides more visibility in terms of actual dollars received and spent during the fiscal year. Third, the repayment of principal on outstanding debt is excluded from operating expenditure, and the proceeds of new debt issued is excluded from revenue. This reflects the fact that any net reduction in debt can only occur when the consolidated budget is in surplus. The ultimate goal is to arrive at a reasonably consistent set of numbers that provides a clear indication of ongoing trends in deficits, debt, revenues, expenditures, and additions or subtractions from reserve funds.

EDMONTON'S FISCAL HISTORY: In the mid-1990s, Edmonton divested itself of $900 million in annual expenditures representing 60% of its budget. Edmonton Telephones (EdTel) was sold, the Municipal Airport ceased operations, and the City's electrical and water utilities were "corporatized" into EPCOR, a wholly owned subsidiary of the City of Edmonton. Canada West Foundation's fiscal dataset controls for all of these changes.

SOURCE: Developed by Canada West Foundation from the Annual Financial Reports of the City of Edmonton, 1990-2007.

SUMMARY: The City of Edmonton appears to have at least some room to reduce its infrastructure funding "gap" given some sizeable surpluses in the past. For example, the City recorded a $478.8 million surplus in 2006 and a $312.8 million surplus in 2003. But these surpluses were largely driven by "one-time" revenues accruing to EPCOR. As such, they were retained in the corporation. A closer look at the "effective" budget balance shows a much different picture. Over the last 18 years, the City of Edmonton has run "effective" surpluses averaging only $7.2 million annually.

CAN EDMONTON MEET THE INFRASTRUCTURE CHALLENGE?

The City of Edmonton's operating revenues are generated from three primary sources, each contributing roughly one-third of the total. These include property taxes, user fees, and other revenue. Operating grants are a fourth source of revenue, but the relative amounts are nominal. Dedicated capital revenues come from only two external sources – federal and provincial conditional grants and development cost charges (DCCs). Additional internal capital revenue comes from previous operating surpluses and reserves.

This relatively narrow range of tax and revenue sources is problematic, particularly Edmonton's heavy dependence on the property tax. To be sure, the property tax has a number of unique advantages (see pages 16 and 17). The tax base is immobile and stable, which limits potential economic distortions, produces high levels of compliance, and yields predictable flows of revenue. The tax is highly visible and transparent. But the property tax also has disadvantages. The tax cannot capture revenue from outsiders who use Edmonton's services and infrastructure, but pay their residential property taxes elsewhere. Further, the property tax lacks *elasticity* – revenues tend to grow only slowly over time.

From 1990-2007, total per capita inflation-adjusted tax revenue collected by the City of Edmonton grew by only 5.7% *(Chart 1, Figure 9, page 18).* This stands in stark contrast to provincial and federal tax revenues, which grew by 25.3% and 44.5% respectively. While the different growth rates are striking, they are also understated. Both the federal government and the province of Alberta reduced some of their tax rates during the 1990-2007 period. The differential in the growth rate would be even larger in the absence of these tax cuts.

Another way to explore the inelasticity of the property tax is to measure the increase in taxes facing the average Edmontonian over the 1990-2007 period, and then determine which order of government was responsible for collecting the additional tax revenue *(Chart 2, Figure 9, page 18).* In 1990, total federal, provincial, and municipal tax collections per capita in Edmonton were $9,758 (inflation-adjusted 2007 dollars). By 2007, total per capita taxes had risen to $12,631. Where did the additional $2,873 in taxation go? Of the total increase, 53.1% went to the federal government, which collected an additional $1,525 in tax revenue. An additional $1,303 went to the Alberta government (45.3%). Only $45 or 1.5% of the total increase in per capita tax revenue went to the City of Edmonton. Out of every additional dollar in tax collected between 1990 and 2007, only 1.5¢ has gone to Edmonton City Hall.

The slow rate of growth in Edmonton's tax revenue is pulled into sharper focus by a simple comparison between the personal income tax – a highly elastic tax used federally and provincially – and the property tax *(Charts 1 and 2, Figure 10, page 19).* In 2006, the median family income in Edmonton was $79,300. Estimates for 2007 show the median family at $85,900. The additional personal income tax payable in 2007 because of the $6,600 increase in income was $948. If half of the income increase was spent, another $198 in GST revenue would accrue to the federal government. Thus, the total tax payable under this scenario is $1,146. It is important to remember that this additional tax revenue resulted even though new tax deductions were introduced and existing deductions were increased.

Contrast this with similar data for the property taxes collected in the City of Edmonton. In 2006, the residential property tax payable to the City for an average single family dwelling assessed at $219,000 was $1,259. For 2007, the City of Edmonton implemented a property tax increase that raised the tax bill to $1,376. The increase was $117 per year. But this "increase" should not be viewed in isolation from the corresponding increase in personal disposable income out of which the property tax must be paid. For example, the 2006 property tax bill of $1,259 was 2.021% of the $62,295 in income that remained after personal income taxes were paid. In 2007, the $1,376 property tax bill was 2.025% of the remaining $67,947. If the 2006 ratio of 2.021% were in play for 2007 instead of the 2.025%, the property tax payable would have been $1,373 instead of $1,376. *Thus, the effective tax increase – relative to median family disposable income – was only $3 for the year. This is a mere 25¢ per month.*

THE PROPERTY TAX: Advantages and Disadvantages

1. Advantages

- *A dedicated local tax:* The property tax has traditionally been the reserve of local governments. This, along with the relatively straightforward computation and collection of the tax, has led to historical support and appreciation for the purposes behind it.

- *Local control:* Citizens and civic leaders settle on a bundle of services desired for the taxes they are willing to pay. In large metropolitan areas, such local control fosters choice and competition between cities, strengthening the cities and driving them to excel.

- *A good fit with the "benefits" principle:* Theoretically, the tax is equitable in the sense that residents pay for the benefits they receive. Many city services and improvements are provided directly to properties, which also increases property values. There are a number of ties here that make the property tax quite appropriate in the local context.

- *Immobile and stable tax base:* Because property cannot get up and move, property taxes are hard to duck. This leads to reasonable tax compliance and good collection rates.

- *Stable and predictable revenues:* Property values exhibit low volatility despite happenings in the broader economy — the assessed value of property is generally better insulated against economic shocks than most other tax bases. As such, the tax tends to produce reliable and stable revenue flows. In other words, the property tax is relatively inelastic — revenues do not surge in response to economic growth nor do they collapse during recession.

- *A highly visible tax:* Unlike a tax embedded in the price of a good or service, property taxes are clearly stated on a tax bill that accompanies a formal notice of assessment. Many taxpayers are unaware of the amount of sales or income tax they pay, but know to the penny their property tax liability. Paying the tax in installments blurs this visibility, but it never fully recedes out of view.

- *An accountable and transparent tax:* Visibility automatically leads to accountability, both in how the tax is used and any move to increase it. The property tax is perhaps one of the most transparent taxes going – every percentage point change is subject to intense public debate and media scrutiny.

2. Disadvantages

- *Setting tax rates locally is not all it could be:* Assessment practices, many of which are determined by provincial legislation, are just as important as the tax rate in determining the final property tax payable. Provinces often stipulate the various property classes as well as the portion of actual property valuation that is taxable. Prescribed exemptions for some properties presents another limitation, and revenue-in-lieu of tax cannot be directly controlled. Cities are not as free with the property tax as most would like to believe.

- *The "benefits" principle does not always apply:* Properties of similar type are usually assessed the same regardless of the costs of service provision. In short, the tax payable does not always reflect the variable costs of providing services to different properties. For example, properties that are "close-in" are usually more expensive and carry higher assessed values than similar properties in the suburbs. Yet, the costs of servicing peripheral properties and their attendant infrastructure are arguably higher. Of particular concern is that the tax is not uniformly applied across all properties – there is discrimination in assessed values, and differential tax rates are often applied to different classes of property. None of this constitutes a link between the taxes paid, the cost of services or infrastructure provided, and the benefits received. Such cross-subsidization has opened the property tax up to the charge that it violates principles of fairness and equity, it rewards urban sprawl, and it artificially increases both the demand for, and the costs of, services and infrastructure.

- *There is no objective measure of the property tax base:* Property values are estimated through a process of assessment, which can be labour intensive, expensive, and open to dispute. Assessment is as much art as it is science, and even experienced and accredited appraisers can disagree on the value of the same property. This can result in under-assessment and under-taxation, once again affecting the equitable distribution of the property tax and exposing cities to numerous appeals. A high number of appeals can affect revenue stability from year to year, undercutting a key advantage of the property tax.

- *The tax base expands slowly:* The revenue generated by a tax is a function of the size of the tax base, the value of the base, and the rate that is applied. For the property tax, the base is the total assessed value of real property. This is a narrow tax base that links directly to only one aspect of the economy – real estate. This tax base expands only slowly, often less than the rate of inflation. As a result, many cities find themselves having to increase the tax rate simply to compensate for inflation, never mind increasing the amount of revenue in real dollar terms (UNSM 2001). In the media and the minds of the public, this is a tax increase. What is conveniently forgotten is that a portion of the so-called "increase" is accounted for by inflation, and is often offset by increases in personal disposable incomes (Loreto and Price 1990).

- *Sluggish revenue growth:* The high visibility of the property tax combined with the need to continually adjust the mill rate, places city officials at a significant disadvantage. Fearing public backlash, many civic leaders are hesitant to adjust the property tax rate to ensure sufficient revenue growth – it is viewed as a tax increase (McCready 1984). As long as the economy continues expanding, revenues from personal income taxes and sales taxes automatically increase without touching the tax rate. The base of a sales tax, for example, increases annually as more goods are purchased. The value of the base increases with the value of the goods and services sold. The rate always captures the effects of inflation, which are reflected in the prices of the goods or services consumed. Cities, singularly dependent on the property tax, are simply not afforded this luxury. Ensuring adequate revenue growth that reflects growth in the overall economy takes more than just political debate, but steely resolve.

- *Sluggish growth is a double-whammy:* Slow revenue growth creates a fiscal gap between revenues and growing demands for services and infrastructure, but it also limits the ability of cities to debt-finance capital expenditures. When revenues expand at a reasonable pace, some of that growth can be leveraged with modest amounts of debt without increasing the interest burden to the operating budget. If revenues grow slowly, the interest that accompanies any increase in debt consumes more and more operating revenue, squeezing out other priorities. Given the size of municipal infrastructure deficits, this is no small consideration.

- *The tax is unrelated to ability to pay:* The property tax does not link directly to incomes earned, but only indirectly through the value of a capital asset owned, which may or may not reflect ability to pay. For those with low or fixed incomes, higher property taxes can be a significant burden. Thus, many suspect that the property tax is regressive. However, regressivity depends on the type of property, the assessment practices in place, and the availability of tax credits, deferrals, exemptions, reductions, or refunds (Loreto and Price 1990; McCready 1984). In general, the property tax can be considered regressive for those with low incomes, neutral for those with medium incomes, and progressive for those with high incomes.

- *Free-riding:* From a big city perspective, one of the biggest disadvantages of the property tax is its inability to capture tax revenue from a host of outsiders who pay their property taxes elsewhere but nonetheless impose a cost to the city. For example, at least some of the investment in the capital infrastructure of a city is required to meet the demands of commuters and truckers, and many of the services produced by the municipality are also consumed by tourists, business travellers, and other outsiders. However, these individuals do not contribute to the residential property tax base upon which many of these services and infrastructure depend. Grants used to help ameliorate this problem, but with ongoing support a thing of the past and more and more urbanization concentrating just outside large cities rather than within, such problems of "fiscal disequivalence" and "free-riding" are bound to loom even larger in the future.

- *Property tax revenues can lag urban growth:* The full revenue effect of the property tax is often delayed until new property construction is completed. A good portion of the infrastructure required to accommodate increased population growth may have to be financed and constructed by cities in advance of receiving any property tax revenue generated from that growth. To be sure, this may simply be a short-term cash flow problem, and the extent and magnitude of any "lag time" is unclear. But, some still maintain it can be quite problematic under certain circumstances.

- *Concerns continue to be expressed about the impact of the property tax across the economy broadly speaking, and its role within the new information economy in particular:* The property tax really amounts to a tax on capital. Capital taxes target savings and investment, the very fuel that drives the engine of economic growth, innovation, and productivity. As such, some economists argue that capital taxes are the worst taxes possible (Clemens, Emes, and Scott 2002). Further, the property tax does not always seem to provide a good fit for the commercial and industrial sector – the size of a building does not always bear a direct relation to the level of economic activity. This concern can only be expected to grow as the transition to a knowledge economy continues to weaken the link between property ownership and wealth creation.

FIGURE 9: Comparing Edmonton's Taxes to Federal and Provincial Taxes

CHART 1: Growth Rates of Per Capita, Inflation-Adjusted Revenues, 1990-2007 (Federal Government, Province of Alberta, and City of Edmonton)

GROWTH OF FEDERAL REVENUES

Personal Income Tax	+	25.7%
Corporate Income Tax	+	71.2%
General Sales Tax (GST)	+	4.8%
Excise, Customs, Other Sales	–	21.4%
EI Premiums	–	7.7%
CPP Premiums	+	65.9%
Other Taxes	+	81.5%
Total Taxes	+	25.3%
Non-Tax Revenue	+	47.5%
Total Revenue	+	26.7%

Total federal government revenues in nominal dollars grew by almost $145 billion between 1990 and 2007. Federal tax collections, measured in per capita amounts adjusted for inflation, have grown by 25% since 1990. Corporate income taxes have shown some of the most robust growth. Personal income tax and GST revenue is still growing despite recent cuts in both of these taxes.

GROWTH OF ALBERTA REVENUES

Personal Income Tax	+	40.2%
Corporate Income Tax	+	140.2%
Education Property Taxes	–	24.7%
Excise and Other Sales Taxes	+	46.0%
Total Conventional Taxes	+	44.5%
Resource Revenues	+	155.2%
Non-Tax Revenue	–	11.9%
Total Revenue	+	38.1%

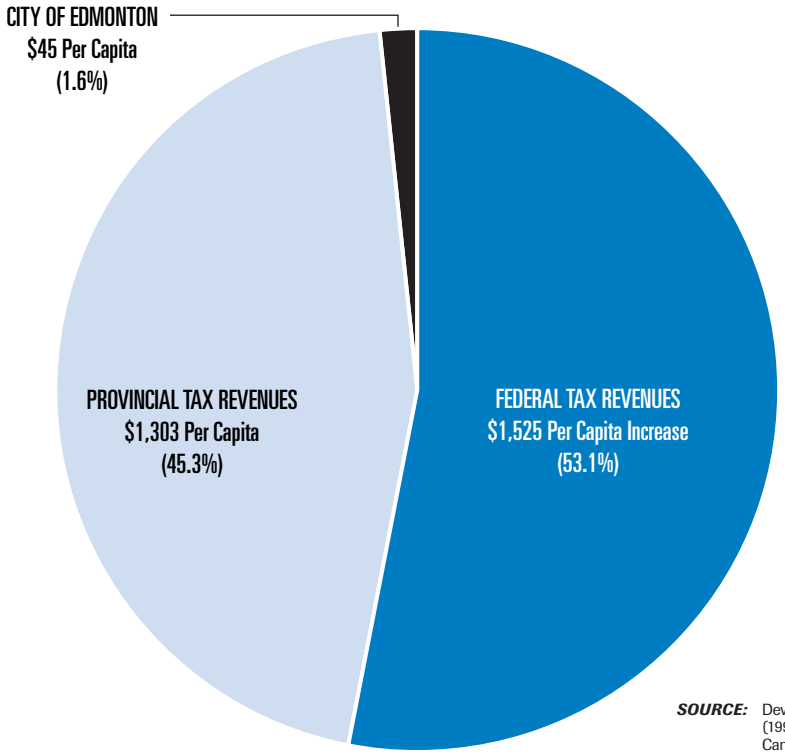
Alberta's revenues are surging ahead on virtually all fronts. Leading the growth is resource royalty revenue, which has grown by 155% since 1990. Corporate income tax revenue has grown almost as much at 140%. Between 1990 and 2007, the provincial government cut personal and corporate income taxes. Despite these cuts, revenue growth is still positive due to rapid economic expansion and population growth. The only tax source producing less per capita income in inflation-adjusted dollars is the education property tax. Since 1990, revenue from the education property tax has actually fallen 25% in real per capita terms.

GROWTH OF EDMONTON REVENUES

General Property Tax	+	19.1%
Business Tax	–	3.3%
Local Improvements & Other Taxes	–	76.1%
Total Taxes	+	5.7%
Operating Grants	–	53.7%
Revenue-in-Lieu and Franchise Fees	–	47.2%
User Fees	+	42.1%
Ed Tel Fund & Investments	+	78.8%
EPCOR and Other Commercial	+	21.9%
Other Operating Revenue	+	38.5%
Total Operating Revenue	+	12.4%
Capital Revenues	+	170.9%
Total Revenue	+	27.2%

From 1990 to 2007, total tax revenue growth in real per capita terms in Edmonton was only 5.7%. Federal taxes have grown four times this amount. Provincial taxes have grown eight times this amount.

CHART 2: Percentage Share of the Total Increase in Per Capita Taxes (Inflation-Adjusted, 2007 Real Dollars) Paid by an Average Edmontonian, 1990-2007



	1990 Taxes	2007 Taxes
FEDERAL GOVERNMENT	$6,037.84	$7,563.07
ALBERTA GOVERNMENT	$2,927.78	$4,230.30
CITY OF EDMONTON	$792.56	$837.80
TOTAL	$9,758.18	$12,631.17

In 1990, the total tax bill for an average Edmontonian was $9,758.18. In 2007, the total tax bill had grown to $12,631.17. Taxes levied by the City of Edmonton constitute less than 2% of the total increase over the 1990-2007 period. In fact, for every additional $1 paid in tax over the last 17 years, only 1.5¢ has gone to Edmonton city hall.

SOURCE: Developed by CWF from the Annual Financial Reports of the City of Edmonton (1990-2007), the 2008 Alberta Budget, the Public Accounts of the Government of Canada (1990-2007), and Statistics Canada.

FIGURE 10: Personal Income Tax and Property Taxes Compared

CHART 1: Income Tax Bill for an Edmonton Family Earning the Median Income

2004 TOTAL MEDIAN INCOME	**$ 68,100**
Federal Income Tax Payable	$ 12,882
Less Non-Refundable Tax Credits	$ (2,787)
Equals Net Federal Tax	$ 10,095
Provincial Flat Tax of 10% on $68,100	$ 6,810
Less Non-Refundable Tax Credits	$ (3,128)
Total Net Provincial Tax Payable	$ 3,682
2004 Total Personal Income Tax in on $68,100	$ 13,777
2004 Disposable Income After Tax	$ 54,323
2005 TOTAL MEDIAN INCOME	**$ 72,600**
Federal Income Tax Payable	$ 13,537
Less Non-Refundable Tax Credits	$ (2,792)
Equals Net Federal Tax	$ 10,745
Provincial Flat Tax of 10% on $68,100	$ 7,260
Less Non-Refundable Tax Credits	$ (3,167)
Total Net Provincial Tax Payable	$ 4,093
2004 Total Personal Income Tax in on $68,100	$ 14,838
2004 Disposable Income After Tax	$ 57,762
2006 TOTAL MEDIAN INCOME	**$ 79,300**
Federal Income Tax Payable	$ 15,252
Less Non-Refundable Tax Credits	$ (2,933)
Equals Net Federal Tax	$ 12,319
Provincial Flat Tax of 10% on $68,100	$ 7,930
Less Non-Refundable Tax Credits	$ (3,244)
Total Net Provincial Tax Payable	$ 4,686
2004 Total Personal Income Tax in on $68,100	$ 17,005
2004 Disposable Income After Tax	$ 62,295
2007 TOTAL MEDIAN INCOME	**$ 85,900**
Federal Income Tax Payable	$ 16,757
Less Non-Refundable Tax Credits	$ (4,036)
Equals Net Federal Tax	$ 12,721
Provincial Flat Tax of 10% on $68,100	$ 8,590
Less Non-Refundable Tax Credits	$ (3,358)
Total Net Provincial Tax Payable	$ 5,232
2004 Total Personal Income Tax in on $68,100	$ 17,953
2004 Disposable Income After Tax	$ 67,947

SOURCE: Derived from Statistics Canada, the 2004-2007 tax forms, and the City of Edmonton. The family earns the median income of all family types in the Edmonton CMA, and taxes are based on a two parent family, a single income earner, and two dependent children.

CHART 2: Analysis of Edmonton Property Tax Levels

2004 DISPOSABLE (After Tax) Income	**$ 54,323**
Average 2004 Assessment Value of a Single Family Dwelling	$ 177,500
Resulting 2004 Municipal Residential Property Tax	$ $1,037
Property Tax as a % of Average Assessed Value	0.584%
Property Tax as a % of 2004 Disposable Income	1.909%
2005 DISPOSABLE (After Tax) Income	**$ 57,762**
Average 2005 Assessment Value of a Single Family Dwelling	$ 188,500
Resulting 2004 Municipal Residential Property Tax	$ $1,093
Property Tax as a % of Average Assessed Value	0.580%
Property Tax as a % of 2004 Disposable Income	1.892%
2006 DISPOSABLE (After Tax) Income	**$ 62,295**
Average 2005 Assessment Value of a Single Family Dwelling	$ 219,000
Resulting 2004 Municipal Residential Property Tax	$ $1,259
Property Tax as a % of Average Assessed Value	0.575%
Property Tax as a % of 2004 Disposable Income	2.021%
2007 DISPOSABLE (After Tax) Income	**$ 67,947**
Average 2005 Assessment Value of a Single Family Dwelling	$ 264,500
Resulting 2004 Municipal Residential Property Tax	$ $1,376
Property Tax as a % of Average Assessed Value	0.520%
Property Tax as a % of 2004 Disposable Income	2.025%

In 2006, median family income in Edmonton was $79,300, and total income taxes payable were $17,005. Taxes were thus 21.4% of income. In 2007, estimates of median income are $85,900. The taxes payable were thus $17,953. While the 2007 tax-to-income ratio fell to 20.9%, the total taxes payable still increased by $948.

This contrasts sharply with the municipal experience. In 2006, an Edmonton family living in an average single-family home paid $1,259 in municipal property tax. In 2007, an average family in an average home paid $1,376 in municipal property tax – a $117 or 9.3% increase. What is often forgotten is that most of the $117 increase was offset by rising disposable incomes. In 2006, the $1,259 property tax bill was paid out of $62,295 in disposable income (2.021%). In 2007, the $1,376 property tax bill was paid out of $67,947 in disposable income (2.025%). If the 2006 ratio of 2.021% were in play in 2007, our family's property tax bill would have been $1,373 rather than $1,376. **Thus, the effective property tax increase in 2007 relative to disposable income was $3 – a mere 25¢ per month.**

In 2007, property taxes did increase relative to disposable income, but the actual "increase" resulted in very little revenue. On the other hand, personal income taxes relative to incomes fell, but still resulted in a $948 windfall for the federal and provincial governments.

Even more striking is the comparison between 2004 and 2007. In 2004, the income tax payable on the median family income of $68,100 was $13,777 (20.2%). In 2007, the tax payable on the median income of $85,900 was $17,953 (20.9%). A higher income and a higher effective tax rate resulted in an additional $4,176 in income tax for the federal and provincial governments. In 2004, the municipal property tax payable on an average single-family home was $1,037 or 1.909% of median disposable personal income. In 2007, the tax payable was $1,376 or 2.2025%. If the ratio of 1.909% had not increased, the property tax would have been $1,297 and not $1,376. Over a four year period, successive property tax increases in Edmonton have only yielded about $79 in additional revenue relative to personal disposable income. At the same time, taxpayers have had to fork over thousands of additional tax to federal and provincial governments.

The lack of growth exhibited by the property tax is problematic, particularly with a huge infrastructure funding "gap" that continues to widen. To be sure, the property tax is supplemented with other revenue sources such as user fees and federal and provincial transfers. But user fees have limited revenue generating capacity as they are often offset by rising costs, and federal and provincial transfers are outside municipal control. What is more, operating and capital grants have yet to recover to their historical levels following the fiscal belt-tightening of the 1990s.

SUMMARY: Operating and capital revenues for the City of Edmonton are generated by only five sources. These include property taxes, user fees, grants, developer cost charges (DCCs), and a basket of miscellaneous revenues. The ability of these financial sources to provide a growing stream of revenue is limited. From 1990-2007, real per capita tax revenue for the City of Edmonton grew by only 5.7%. This rate of growth pales in comparison to the tax revenue growth seen federally (25.3%) and provincially (44.5%). One of the biggest needs today is urban infrastructure, but cities like Edmonton are hard pressed to secure the needed financial resources. From 1990-2007, total per capita tax revenues for all orders of government rose by $2,873. Of this amount, 53.1% accrued to the federal government while another 45.3% went to the provincial government. Only 1.5% of the increase — $45 — has accrued to the City of Edmonton. Under such circumstances, Edmonton will not be able to close its infrastructure funding "gap." It is simply unreasonable to expect such a limited set of revenue sources to carry the burden of funding infrastructure in the City of Edmonton. The funding challenge facing Edmonton constitutes a powerful argument for new directions and an expanded set of financing and funding tools.

THE SEARCH FOR ALTERNATIVES

When considering new infrastructure funding alternatives for the City of Edmonton, several factors combine to guide the search. First, the single largest problem area lies in tax-supported infrastructure, particularly transportation (i.e., roadways, bridges, interchanges, public transit). Transportation needs alone constitute 60% of the infrastructure funding "gap" for 2008-2017. Much of the remaining funding "gap" lies in other tax-supported infrastructure such as parks and general government. Second, the City of Edmonton is singularly and highly dependent on the property tax, having no other substantial taxes at its disposal. What is more, the property tax is an inelastic revenue source. Consequently, the search for new funding alternatives naturally tilts toward uncovering a basket of tax options that can better meet Edmonton's infrastructure funding challenge or securing more diverse and richer tax revenue-sharing with other orders of government. While this does not preclude other considerations as well, the exercise is still very much a question of exploring new tax choices.

This is not to suggest that a dramatic increase in municipal taxation is the silver bullet to Edmonton's infrastructure funding challenge. Rather, the primary thrust is to consider changing the way in which Edmonton collects tax revenue. What is in view here is not just how much taxes are collected, but what taxes are in play, how the tax revenue is collected, from whom taxes are collected, where the money is spent, and how the taxes are implemented and subsequently administered. The way a tax system operates and the types of taxes in play are just as important as the total value of the tax revenue collected — if not more so.

Previous Canada West Foundation research has carefully laid out the larger rationale for an expanded tax system for western Canada's largest cities (see pages 22 and 23). But when it comes to infrastructure, there are three special reasons to consider a more diverse set of taxes.

1. The Example of Competitor Cities

Many of Edmonton's competitor cities, whether in Europe, Asia, or the US, have significantly greater access to a wider range of taxes. These taxes include a broad-based local general retail sales tax and selective sales taxes on specific items such as lodging, restaurants, liquor, and other luxuries or consumables. Other taxes in play include a range of "vehicle-specific" taxes such as a local fuel tax, vehicle registration taxes, and taxes on

car rentals and parking. Various business taxes are also in use. Finally, there can also be much richer tax sharing with national, provincial and state governments. Many European cities, for example, draw much of their tax revenue from personal and corporate income taxes shared by senior governments. Many of these taxes are specifically earmarked for infrastructure investment.

The cities of Denver, CO and Seattle, WA provide an interesting contrast to the City of Edmonton *(Figure 11).* The City of Denver has the authority to levy its own local general retail sales tax and a range of selective sales and business taxes. Denver also enjoys more robust tax sharing with the State of Colorado. Much the same exists for the City of Seattle, which employs many of the same taxes in addition to a relatively long list of state-local tax shared revenues. What is even more striking is how both Denver and Seattle have the authority to levy a number of other taxes, but currently do not. For example, Seattle currently employs its own real estate excise tax. Denver also has that option, but does not currently use it. Both Denver and Seattle can impose an employee tax, but only Denver has actually imposed it.

Again, the point is not that Denver and Seattle collect more tax revenue than Edmonton. This may or may not be the case. The larger point is that Denver and Seattle – and most other cities around the globe – have a more diverse tax regime, and this carries huge ramifications in terms of meeting the infrastructure funding challenge. The property tax no doubt serves as a foundational tax given its propensity to produce predictable revenues, but this is supplemented with other taxes that provide better revenue-generating capacity. To be sure, the fact that Edmonton's competitor cities have a more diverse tax system is not enough to make the case that Edmonton needs the same. However, it does underscore the extent to which Edmonton is much different than many other cities around the world.

2. Criteria for Sustainable Tax Funding

The City of Edmonton's infrastructure challenge lies primarily in tax-supported infrastructure and the City is very limited with respect to the taxes it can employ. None of this is sustainable over the long-term. A logical question is what types of alternatives might work better? To answer the question, it is helpful to develop a list of criteria by which the merits of different tax and revenue tools can be evaluated. Typically, different taxes can be ranked according to a number of criteria.

FIGURE 11: Comparison of Municipal Tax Tools

CHART 1: Financial Tools Open to the City of Edmonton, Alberta

Local Taxes in Play:	Tax-Sharing:
Property Tax Business Tax (Property-based) Franchise and Utility Taxes	Federal Fuel Tax Provincial Fuel Tax
Other Taxes Not Currently in Use:	**Other Revenue Sources:**
	Federal and Provincial Grants User Fees Commercial Income Investment Income Licenses, Permits, Fines

CHART 2: Financial Tools Open to the City of Denver, Colorado

Local Taxes in Play:	Tax-Sharing:
Property Tax Franchise and Utility Taxes General Retail Sales Tax Sales Tax on Lodging Sales Tax on Restaurants/Alcohol Sales Tax on Off-sales of Alcohol Sales Tax on Vehicle Rentals Sales Tax on Aviation Fuel Sales Tax on Entertainment Events Employee Head Tax Auto Ownership Tax	State Fuel Tax State Tobacco Tax State Vehicle Registration Tax State Lottery Revenue Tax
Other Taxes Not Currently in Use:	**Other Revenue Sources:**
Real Estate Transfer Tax Most any tax except income taxes	Federal and State Grants User Fees Commercial Income Investment Income Licenses, Permits, Fines

CHART 3: Financial Tools Open to the City of Seattle, Washington

Local Taxes in Play:	Tax-Sharing:
Property Tax Franchise and Utility Taxes General Retail Sales Tax Sales Tax on Entertainment Events Sales Tax on Gambling Sales Tax on Restaurants, Bars, Pubs Sales Tax on Car Rentals Gross Receipts Business Tax Motor Vehicle Excise Tax Real Estate Excise Tax	State Liquor Tax State Fuel Tax State Lodging Tax State Insurance Premium Tax State General Retail Sales Tax State Leasehold Excise Tax State Hazardous Waste Tax State Utility Tax State Timber Tax State Solid Waste Tax
Other Taxes Not Currently in Use:	**Other Revenue Sources:**
Employee Head Tax Various Types of Business Taxes Head Tax (or Poll Tax)	Federal and State Grants User Fees Commercial Income Investment Income Licenses, Permits, Fines

SOURCE: *Annual Financial Reports* of Edmonton and Calgary, *Consolidated Annual Financial Reports* of Seattle and Denver, and electronic databases maintained by Washington and Colorado.

THE RATIONALE BEHIND A NEW TAX MIX

In *Rationale for Renewal: The Imperatives Behind a New Big City-Provincial Partnership* and *New Tools for New Times: A Sourcebook for the Financing, Funding, and Delivery of Urban Infrastructure,* the Canada West Foundation laid out the reasoning behind a new tax regime for Canada's large cities. The rationale for municipal tax diversity rests on a complex argument that weaves together a variety of fiscal and demographic considerations with concerns over governance and certain economic and political factors.

- *The Fiscal Rationale:* Fiscally, a more diverse tax system would result in better revenue growth for the City of Edmonton. This growth would not be achieved by intentionally increasing property tax rates year over year. Rather, the City of Edmonton would simply have access to a wider variety of taxes that more strongly link to local population and economic growth. An expanded set of tax tools yields better growth in revenues by allowing a city to retain a larger portion of the economic growth occurring within the local region. For example, sales and income taxes grow based on the inherent vitality of a broad tax base and they also capture the effects of inflation, which are reflected in incomes earned or the final price of goods and services sold. A critically important fiscal consideration is how better revenue growth not only expands the amount of funds available for "pay-as-you-go" infrastructure, but how it can fund additional borrowings to increase the total amount of infrastructure investment.

- *The Demographic Rationale:* Demographically, a more diverse set of taxes would enable the City of Edmonton to better cope with the rapid pace of urbanization, compensate for current patterns of population growth, and deal with urban sprawl. Rapid population growth increases the demand for more services, stresses existing infrastructure systems, and creates pressure for new infrastructure. A growing population is not ordinarily problematic for governments—it leads to economic growth and increased tax revenues. But cities are highly dependent on the property tax, which does not always capture the increased tax revenue that normally accrues from a growing population and an expanding economy. Tax diversity would allow cities to better accommodate growth through tax revenues generated by that growth.

  More important is the pattern of urban population growth, much of which now occurs in metro-adjacent areas. This "donut growth" or urban fragmentation meets up with a lack of diversity in municipal tax tools to severely press city finances—the burden of sustaining municipal services and the underlying infrastructure lands squarely on local taxpayers as opposed to those who use the services and infrastructure. While peripheral growth does stimulate the local economy, this does not always translate into additional property tax revenue, particularly as far as the residential property tax is concerned. In the absence of sufficient federal and provincial grants to offset such concerns with free-riding and fiscal disequivalence, there are only two options remaining. First, a city-region can be amalgamated. But amalgamation involves a loss of local control, it can bid up the costs of municipal services, and it also stifles the impulse for creativity and competition between various municipalities in a city-region. A second, and much more creative option, is to allow cities a more diverse tax system that enables them to equalize those externalities themselves.

  Canada's big cities also continue to struggle with the effects of urban sprawl, which increases the cost of providing services and leads to higher demand for municipal infrastructure such as roadways and transit. The drivers of urban sprawl are many, but one factor that is often ignored is the role the property tax may be playing (Slack 2002). Residential properties closer to the city core are usually more expensive and carry higher assessed values. Thus, they carry higher effective rates of property taxation than similar properties in the suburbs. At the same time, the costs of providing municipal services and infrastructure to suburban properties are arguably higher. This has led to a system of cross-subsidization where those living close-in are covering the costs for those living far-out. All of this reinforces sprawl. Lower property taxes, combined with other forms of taxation, may allow such issues of cross-subsidization to be better managed.

- *The Governance Rationale:* Issues of governance also provide part of the overall rationale. Just as cities have grown in size, importance, and complexity, so have the issues with which they must contend. Many of these new responsibilities are directed toward "people" services as opposed to "property" services. Today, municipal governments like the City of Edmonton are responsible for a number of non-traditional functions that possess a strong social element (e.g., immigrants and issues of immigration settlement, drug

abuse, crime) or possess clear income redistributive qualities (e.g., poverty mitigation, community social services, urban Aboriginals, homelessness, affordable housing). At the same time, there exists a mismatch between these newer forms of municipal expenditure and the type of tax cities have at their disposal. The property tax is ill-suited to address services to people that may also require a redistribution of income — the property tax base is too narrow. Social issues unrelated to property services are better handled by other forms of taxation with a broader tax base, whether that is the personal or corporate income tax or a broad-based general sales tax.

Increased tax diversity at the local level provides an opportunity to better match revenue-raising capacity with current municipal expenditure responsibilities, and would allow infrastructure to better compete for scarce property tax dollars. All the benefits of the evolving expertise of big cities and their proximity to these issues are retained at the same time that their current responsibilities are better squared with appropriate financial resources. Given the interconnectedness of governments today, disentanglement is not an option. Neither can cities unilaterally withdraw from these areas of responsibility. As such, a new fiscal framework remains one of the only viable alternatives.

- *The Economic Rationale:* Economically, the current administration of the property tax cross-subsidizes service and infrastructure, leading to inefficiencies, waste, and artificially increased demands for more services and infrastructure. In many ways, the property tax also makes less sense in the new economy. No longer is property a key to creating wealth or income. Evidence of this comes from many cities that are reporting a declining commercial and industrial property tax base. In the new globalized information economy, new systems of taxation need to be considered if cities are to fund a high quality package of infrastructure and services that can attract and retain the highly skilled labour necessary for local, provincial, regional, and national economic success.

  At the heart of the matter is how Canada's municipal tax distinctiveness constitutes a competitive disadvantage for cities like Edmonton. It is important to recognize the benefits that accrue from a diversity of tax tools and revenue levers. No single tax is entirely fair or neutral with regards to investment patterns, economic distortions, or decisions about location and business inputs. Nor is every tax equally suited to generating predictable, stable and growing streams of revenue. No single tax source is equally suited to compensating for inflation, capturing growth in the local economy, or controlling for the problems with free-riding and fiscal disequivalence that inevitably result from more and more people filling the beltways around cities like Edmonton. In short, the infrastructure challenge facing the City of Edmonton constitutes a powerful argument for employing a range of local tax tools and revenue levers, where the advantages of the property tax can be retained at the same time that its disadvantages are offset by the presence of other taxes (Kitchen 2000). In many ways, it is simply unreasonable to expect one tax alone to carry the burden of funding a large city like Edmonton.

- *The Political Rationale:* Politically, a more diverse tax system provides the opportunity to establish better accountability. More direct control to generate revenues would provide cities with more accountability to citizens, and increase the public's confidence that the dollars will be well spent. Only locally raised taxes and locally decided government expenditures can ensure the highest level of accountability. To fund infrastructure, cities currently rely on the property tax and funds granted by the provinces and the federal government. In the exchange, accountability is reduced. To the extent possible, locally decided expenditures should be recovered through locally generated tax revenues, and this requires a re-jigging of the municipal tax system.

Indeed, there is a compelling rationale for allowing large cities like Edmonton to access a more diverse set of taxation tools. A more balanced tax regime would allow Edmonton to accommodate rapid population growth and also manage the fiscal disequivalence issues that arise from current patterns of urban growth. As a relatively fragmented city, this is no small consideration for the City of Edmonton. A new tax regime would also help draw a tighter link to the types of "people" services that Edmonton must provide. Fiscally, a more diverse set of tax tools would balance off the disadvantages of the property tax without losing the advantages. Economically, a more diverse set of tax tools would allow Edmonton to make progress on other aspects of economic advantage, such as repairing aging infrastructure systems and constructing new components.

- *Adequacy:* Can the tax generate sufficient revenues at reasonable and comparable rates of taxation? Can the revenues produced by the tax meet current expenditure needs? What about future expenditure needs? Can the tax be adjusted to respond to changing fiscal circumstances?

- *Reliability:* Does the tax provide steady and reasonably predictable flows of revenue over time, or does the tax run the risk of producing highly variable flows of revenue due to changing economic circumstances? What is the risk of severe fiscal interruption?

- *Elasticity:* Does the tax revenue grow sufficiently over time, keeping pace with both population growth and economic expansion? Can the tax grow sufficiently to cover the rising costs of services and infrastructure in the future?

- *Administration:* Relative to the amount of revenue produced, is the tax easy and inexpensive to establish, impose, and administer? Will the tax result in relatively high levels of voluntary compliance, or will it involve a significant enforcement effort?

- *Equity:* Is the tax fair and equitable? This is a tricky criterion because perceptions of "equity" and "fairness" vary. For example, some taxes can be considered "vertically" equitable while others can be considered "horizontally" equitable. A "vertically" equitable tax sees those who pay the tax also receiving the benefits in the form of services provided. A "horizontally" equitable tax sees those paying the tax based on their ability to pay, regardless of the services they actually use. In considering a tax, should the emphasis be on drawing a tight link between those who pay and those who benefit, or upon ability to pay?

- *Efficiency:* Does the tax encourage or prevent the most efficient allocation of resources? Or, does the tax involve significant cross-subsidization, which leads to misallocation, overuse, and the wasting of resources? There is a link between equity and efficiency. Vertically equitable taxes involve a clear link between those who pay and those who benefit, and are thus more allocatively efficient.

- *Simplicity and Transparency:* Is the tax easy to understand or is it very complex? In terms of transparency, is there a good match between who society believes should be paying the tax and who actually bears the tax? In other words, does the perception of tax incidence match up with reality?

- *Accountability:* Can the same political entity responsible for spending the tax revenue also practically impose, collect, and administer the tax? Tax revenues that are levied and collected by one government and spent by another government imply a lowering of public accountability.

The best possible tax would provide adequate, reliable, and predictable flows of revenue and would be relatively responsive to economic and population growth. The best possible tax would be easy and cost effective to establish and administer, and would see high rates of voluntary compliance. The best possible tax would be equitable and efficient, and would also be perceived as such. The best possible tax would be simple to understand, transparent, and allow taxpayers to hold government accountable with how the revenue is spent.

There is just one problem — *such a tax does not exist.* The criteria above involve a number of trade-offs that cannot be managed within a single tax source. For example, a tax that produces reliable flows of revenue cannot at the same time be highly responsive to economic growth. Either the tax is relatively inelastic and produces consistent revenues, or the tax is highly elastic and runs the risk of variable revenue flows due to changing economic conditions. In the same way, horizontally equitable taxes are desirable, but they also imply a certain loss of efficiency.

All of this underscores a very basic point: it is the lack of diversity in Edmonton's taxation authority that is the key issue. The matter cannot be reduced to simply selecting a "better" tax than the property tax. Rather, the challenge is to create a more diverse tax system or basket of tax revenue-sharing options. Only a diverse revenue regime allows all of the positive aspects of the criteria above to be put into play.

3. Emerging Best Practice

The third rationale for expanded taxing authority is based upon improving Edmonton's ability to follow emerging best practice in infrastructure provision. In *New Tools for New Times* the Canada West Foundation argued that closing the infrastructure "deficit" or funding "gap" requires optimal decision-making in four areas: 1) choosing the right approach to financing; 2) selecting the right funding; 3) experimenting with new delivery modes; and 4) implementing the most effective and efficient techniques to implement the broader approaches for financing, funding, and delivery.

Best practice in infrastructure provision starts with the *"Triple-Two"* rule, which asserts that there are only *two* broad approaches to *three* decisions that have to be made when constructing a new asset or renewing an existing asset. Once the basic *approaches* have been decided upon, decision-making turns to selecting an appropriate *technique* to implement the *approach*.

- *Decision #1 – Financing:* How will the up-front capital be secured? Financing can be secured on a "pay-as-you-go" basis or through borrowing. A combination of these two approaches can also be employed.

- *Decision #2 – Funding:* The funding of infrastructure refers to the sources for the "pay-as-you-go" approach or how any borrowing will be repaid. Funding can be accomplished either through taxation or user fees. A combination of both can also be employed. This is the typical approach used for transit, which is partially funded through fare box revenue and a tax subsidy.

- *Decision #3 – Delivery:* The delivery of infrastructure refers to who will provide, own, operate, and maintain the infrastructure. Again, there are only two choices. Infrastructure and its related service can be delivered either by the public sector or by non-public actors such as the private or non-profit sectors. The concept of the "private-public partnership" combines both delivery modes.

Best practice asserts that the characteristics of the infrastructure in view must be the primary driver when choosing between the various approaches for financing, funding, and delivery. Examples of the varying characteristics of infrastructure include:

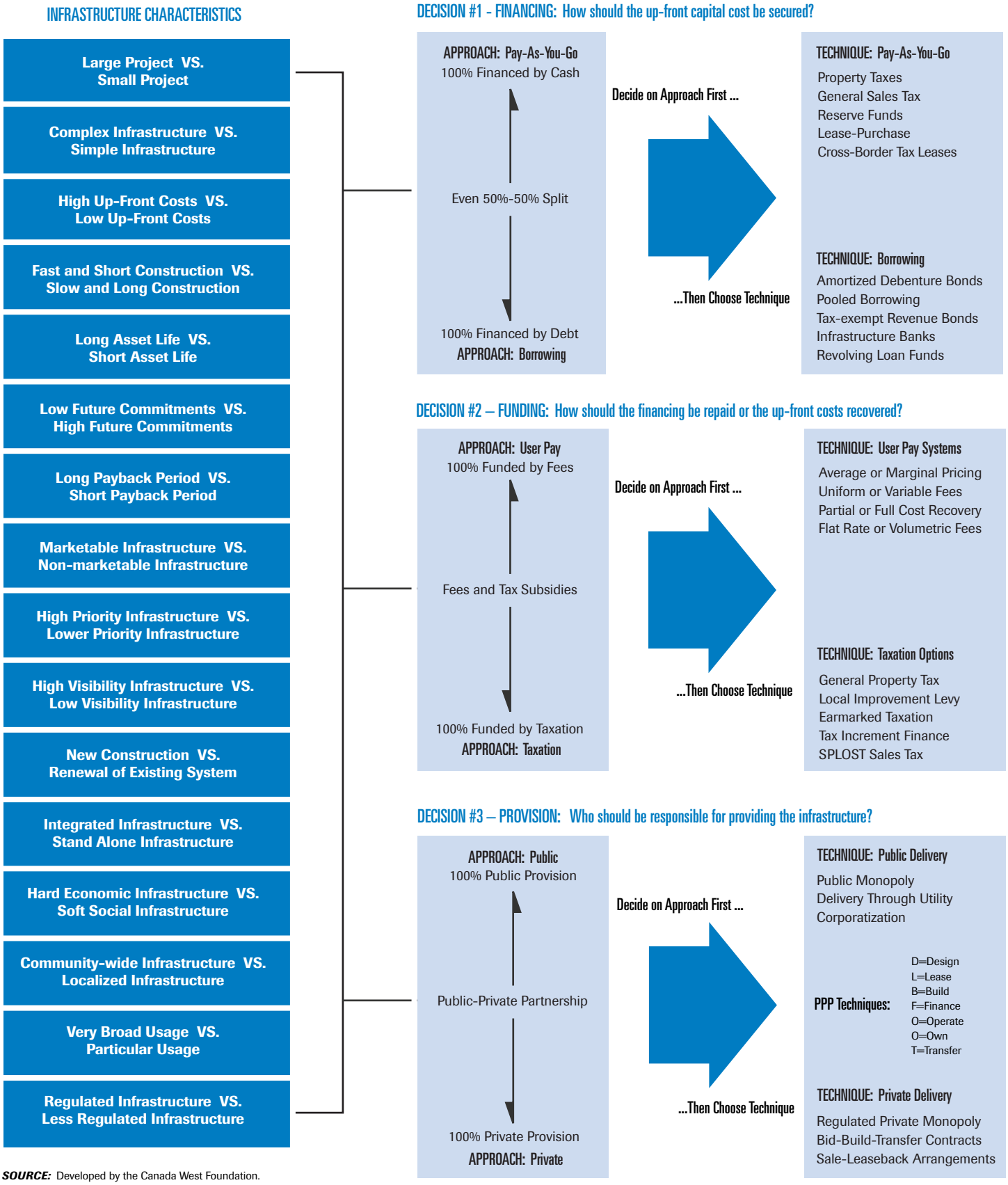
- *Size:* Large assets vs. small assets
- *Complexity:* Technological assets vs. simple assets
- *Cost:* High up-front cost vs. low up-front costs
- *Construction Time:* Fast and short vs. slow and long
- *Asset Life:* Long asset life vs. short asset life
- *Future Revenue Commitments:* High vs. low
- *Payback Period:* Long vs. short
- *Marketability:* Marketable asset vs. non-marketable
- *Priority:* High priority asset vs. low priority asset
- *Visibility:* High public visibility vs. low visibility
- *Type:* New asset vs. renewal of an existing asset
- *Form:* Integrated infrastructure vs. stand alone asset
- *Hard or Soft:* Economic asset vs. social asset
- *Location:* Community-wide vs. localized
- *Usage:* Broad usage vs. particular usage
- *Regulation:* Highly regulated asset vs. little regulation

Infrastructure needs are large and they also compete against other budget priorities. As a result, the traditional formula of "public delivery through tax and spend" is no longer up to the task. To ensure more effective and efficient infrastructure provision, the approaches to financing, funding, and delivery should be based on a rational consideration of the characteristics possessed by various assets as opposed to what is easy or convenient. *Figure 12 (page 26)* provides a conceptual "decision-making tree" explaining the interface between infrastructure characteristics and varying approaches and techniques. The objective is to better understand the complex relationships that are involved, make optimal choices between the twin methods of financing, funding, and provision, and then select particular techniques that are best suited for certain infrastructure assets based on their characteristics. All of this should be done with an eye to effectiveness, efficiency, equity, value for dollar, and maximum benefit.

For example, assume that a new and very large asset with a long life span needs to be constructed. The asset will yield measurable benefits to individual users who can be easily and inexpensively identified, and usage will not be concentrated among those with low incomes. The infrastructure is a hard economic asset that is not part of a highly integrated system. Under this scenario, borrowing and user fees would be the best approaches to financing and funding. In terms of delivery, there is likely an opportunity for at least some private involvement as well.

In *New Tools for New Times* the Canada West Foundation argued in favour of a hierarchy of approaches and techniques, particularly with respect to decisions over funding. This hierarchy reflects a growing consensus in the policy community that direct user fee funding should be applied wherever and whenever possible. From a financing perspective, user pay funding is the best way to bring supply and demand for infrastructure into closer proximity since it draws the tightest link possible between those who use the infrastructure and those who pay. If direct user fees are not possible, then an "indirect" user fee or "user pay" tax is the second best option. With "user pay" taxes, only those who use an infrastructure or service actually pay the tax. Examples in transportation include fuel taxes, vehicle registration fees, parking taxes, and car rental taxes. General taxation – which sees everybody paying regardless of the infrastructure or services used – should be reserved as the funding choice of last resort. General taxation should only be employed when user pay or user taxation is not possible, or when user pay would create intolerable distributional equity effects on those with low or fixed incomes.

FIGURE 12: The "Triple-Two" Rule and Various Financing, Funding, and Delivery Techniques



SOURCE: Developed by the Canada West Foundation.

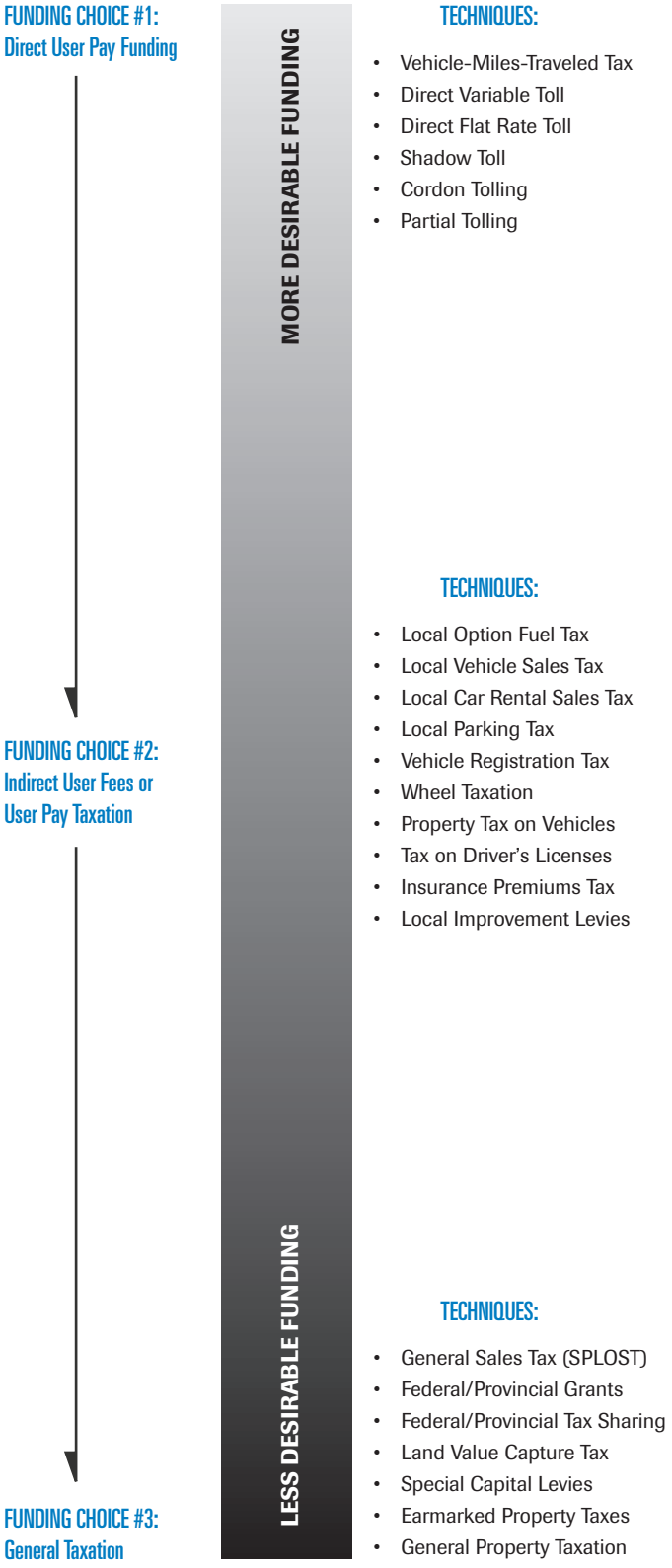
The rationale behind this hierarchy is to provide funding for infrastructure, keep demand in check, and maximize efficiency. All taxes result in some distortion within the broader economy and produce a certain amount of deadweight loss that lowers the potential for enhanced productivity and economic growth. Centralized funding through general taxation does not result in any direct financial consequences accruing directly to individuals based on the amount of infrastructure or services they consume. Because the costs are shared irrespective of usage, there is no financial incentive to reduce the individual consumption of infrastructure and services. This leads to higher total costs for government and artificially increased demands for more infrastructure and more services. In short, centralized financing through general taxation is less efficient than "user pay" taxes, which in turn are less efficient than "direct" user fees.

Figure 13 provides an example of this hierarchy for the funding of roadway infrastructure. To efficiently fund roads, for example, it is best to charge users directly, preferably according to the amount they are driving — a vehicle-miles travelled charge. If that is not possible, the second best alternative is to charge drivers a toll that varies according to the amount of congestion — a variable toll. If that technique is not possible, a third choice would be a flat rate toll. If that is not possible, a fourth technique would be a "shadow" toll. Cordon tolling and partial tolling are also options to consider.

If direct user pay funding is not possible at all, the next best approach is a set of "user pay" taxes. Such taxes include a special property tax on the value of vehicles, a local fuel tax, or taxes on vehicle sales, car rentals, and parking. General taxation — everybody paying whether they drive on the roads or not — is the least preferred option. And even here, there is a choice to make as to what general tax is most appropriate. For example, local roadway infrastructure directly benefiting adjoining properties could be funded through local improvement levies or the general property tax. However, a general retail sales tax would be a better choice for roadway infrastructure benefiting local citizens as well as those commuting into the city.

It is precisely at this point where the best practices model falls apart for the City of Edmonton. While the City of Edmonton is relatively free to decide upon the basic *approaches* it will use to finance, fund, and deliver infrastructure, the City is very restricted in terms of the specific financing, funding, and delivery *techniques* it can employ.

FIGURE 13: A Hierarchy of Techniques for Roadway Funding



SOURCE: Canada West Foundation. For more details on this conceptual framework, see *New Tools for New Times: A Sourcebook for the Financing, Funding, and Delivery of Urban Infrastructure (Part II)* available for free download at http://www.cwf.ca.

If an asset must be funded through taxation, the City of Edmonton has few choices – local improvement levies and the general property tax. But depending on the type of infrastructure in view, a range of other taxes might be more appropriate, especially a basket of "user pay" taxes or even a general retail sales tax. But these taxes are not open to the City of Edmonton. Thus, the City is hampered in its ability to chose among some of the most efficient and effective techniques to fund infrastructure.

The same also applies to other approaches, such as borrowing. When it comes to debt-financing infrastructure, the City of Edmonton is largely restricted to issuing regular amortized debenture bonds with regular payments of interest and principal over the term of the bond. But this is not the only way to borrow, nor is it always the best way to borrow. Other techniques include local community bonds, tax-exempt general obligation bonds, and innovations such as asset-backed borrowing. On the delivery side, Alberta cities were only recently given "natural person powers" allowing them to construct special corporations for the purpose of establishing project specific "public-private partnerships." In short, the search for better revenue alternatives is not just about finding additional sources of revenue, as important as that might be. The larger rationale for an expanded list of financing, funding, and delivery techniques is all about the search for more efficiency in infrastructure provision.

SUMMARY: The infrastructure challenge facing Edmonton revolves around its tax-supported assets – particularly roads and transit. Further, the City has very restricted taxation authority, especially compared to many of its global competitors. As a result, the search for new infrastructure funding alternatives naturally tilts toward employing better sources of tax-based funding. But this is not all. No one tax alone can fulfill the many criteria for what makes a good funding system – a diverse set of taxes is needed. Only then can the advantages and disadvantages of one tax be offset with the advantages and disadvantages of other taxes. A diverse set of taxes is also essential if Edmonton is to begin following through with emerging best practice in infrastructure provision. In Canada, the financing of urban infrastructure tends to be "pay-as-you-go" with tax-based funding and delivery via the public sector. However, this *modus operandi* may not always be effective or efficient. The characteristics of an infrastructure asset should drive the approaches taken to financing, funding and delivery, and cities should have the capacity to choose among a wide variety of techniques to implement the broader approaches. In this way, the provision of infrastructure can be optimized.

A BETTER WAY: A "Top Ten" List

Canada West Foundation's *New Tools for New Times* study identified over 100 specific techniques used by cities around the world to finance, fund, and deliver infrastructure. The focus of this current effort is to select ten ideas from this larger list for application by the City of Edmonton. For inclusion in the list, each alternative should accomplish at least one of three specific objectives:

1) Infrastructure Funding Potential: Alternatives must speak in a meaningful way to the magnitude of the infrastructure challenge facing the City of Edmonton. Any useful alternative must be capable of making a significant dent in the annual $1.9 billion infrastructure funding shortfall anticipated over the 2008-2017 period. This is no time to "tinker." The focus must be on big ideas that offer the potential for big change.

2) Addressing Fundamental Needs: The alternatives must also be able to provide a measure of relief to the main challenge facing the City of Edmonton – tax-supported infrastructure, particularly roadways and transit. Again, almost 60% of the infrastructure funding challenge lies in transportation infrastructure. If this challenge can be met, then the current infrastructure funding shortfall becomes much easier to manage.

3) Contribute to Diversity: When all the options are combined, the result should be a more diverse system of financing, funding, and delivery techniques. This diversity allows the City to begin pursuing best practices in infrastructure provision.

At this point, several cautions are in order. First, any change to the status quo requires provincial approval, and there is no guarantee that this will be forthcoming. As such, the list of options is split into two categories. The first focuses on ideal or "out-of-the-box" alternatives that require provincial approval or a paradigm shift in thinking. The second category includes "in-the-box" options that should be doable under the existing *Municipal Government Act.* Second, the list counts down the options from less desirable to more desirable alternatives. Third, readers should exercise caution with the revenue estimates, which were prepared at a macro level and serve to demonstrate orders of magnitude only. Finally, whenever debt financing is referenced, that debt is defined as a regular amortized debenture bond with blended payments of interest and principal over a 25 year term. Two payments are made annually and all payments are the same. The rate of interest is always 4.751% which is the current rate offered through the *Alberta Capital Finance Authority (ACFA).*

"Out-of-the-Box" OPTIONS

OPTION #5: Public-Private Partnerships

■ *The Option:* A Public-private partnership (PPP) is any one of a number of contractual arrangements where the public sector partners with private or non-profit actors to deliver infrastructure and services. PPPs are not privatization, and contrary to popular opinion, they do not involve a new type of financing or funding. Under PPP arrangements, the financing and funding approaches are essentially the same, although some PPPs do allow increased access to international capital markets and equity capital.

Neither is PPP singularly about infrastructure. PPPs actually run in two directions. On the operating side, PPP is a wide-spread and systematic commitment to private and non-profit involvement in public service delivery through a process of competitive tendering. PPPs in operations include service contracts (purchasing inputs), alternative service delivery (purchasing outputs), operations and maintenance contracts (O&M), and systems of managed competition running across the governmental organization. On the infrastructure side, PPP goes beyond the traditional "bid-build" relationship between government and the private sector. In a PPP arrangement for infrastructure, a private partner can engage in design (D), financing (F), building (B), owning (O), and operating (O) an asset. PPPs see everything from limited private involvement in a "design-build" or D-B contract to full-blown D-B-F-O-O-T schemes where ownership and operation of the asset resides with the private partner until the investment has been recouped, a return realized, and the asset is transferred back to the public sector.

The thrust behind PPP is to open up service delivery to non-public actors through a process of competitive tendering. The idea is that competition among a number of private actors for the right to provide a good or service will improve the quality of the service offered and lower total costs. At no stage in a PPP does government abandon its role in providing oversight or protecting the public interest. While government may no longer be delivering a service, government does guarantee that the service is provided and certain standards are maintained.

■ *Advantages:* The policy community is sharply divided over the merits of PPP, in large part because the concept is ideologically loaded and a myriad of studies have showed both positive and negative results. Proponents often cite a list of advantages that include:

- Optimal risk management
- Innovations in design, operations, and maintenance
- Increased specialization and flexibility
- Better capital asset management
- Projects arriving on-time and on-budget
- Freeing up public funds
- Wider sources of financing
- Passing tax savings to the government partner
- Increased competition
- Development of new revenue streams
- Full cost pricing and cost recovery
- Enhanced public management

■ *Disadvantages:* Opinion is sharply divided over the drawbacks of public-private partnerships as well. A comprehensive literature search conducted by the Foundation uncovered the following examples:

- High transaction costs
- Potential for skewed investment priorities
- Loss of accountability
- Loss of transparency
- Loss of public control
- The impossibility of properly allocating risk
- Governments still need to provide guarantees
- Higher total costs

For every successful PPP project one can find an offsetting PPP disaster. For every advantage cited, one can point to opposing disadvantages. In *New Tools for New Times,* the Foundation fully explored these matters, highlighted where PPP offers the most potential, and how PPP is best used. To successfully engage PPPs, the City of Edmonton will have to do the following:

- Build a programmatic and long-term commitment
- Start with service delivery and target new services first
- Align existing legislation to facilitate PPP usage
- Build institutional capacity and human resources
- Identify suitable projects and a steady "deal flow"
- Engage in research and knowledge transfer
- Bring in international experts
- Communicate clearly with the public and the media
- Understand PPP strategies, tricks, and tips
- Develop a fair "public sector comparator" or PSC
- Lobby for a provincial and national policy on PPP

Coming to grips with PPP is not easy. PPPs are not risk-free and they require governments to build expertise. All of this entails a significant investment of both time and resources. As a result, the City of Edmonton should either embrace the concept in its entirety, or forget about PPPs completely. In the absence of a programmatic commitment, PPPs offer little upside. Success with PPP will not happen if the approach taken is ad hoc, sporadic, and surrounded by misgivings. Unless a long-term and programmatic commitment is made, PPPs are bound to produce more failures than successes.

Governments that have been the most successful with PPP are those that have first applied PPP to service delivery. Once expertise was developed in that context – in both the public and the private sectors – PPPs were extended to infrastructure and the full range of D-B-F-O-O-T schemes. If the City of Edmonton cannot fathom opening service delivery to competition and private delivery with effective public oversight, the garden will not be properly "tilled" for using PPPs with infrastructure. Indeed, much more could be said – PPPs are as much "art" as they are "science."

■ *Revenue Potential:* The potential of PPP to help with the infrastructure funding shortfall relates to the potential for cost savings, the bulk of which comes on the operational side. The idea is to redirect these savings to the capital budget. This, combined with savings on the capital side, can be combined to lower the overall infrastructure funding "gap." However, the amounts can only be estimated by benchmarking against results occurring elsewhere.

Very aggressive PPP programs pursued in several US cities (e.g., Indianapolis) have resulted in 10% to 25% savings across the operating budget. In 2007, operating expenditures for the City of Edmonton, less interest on debt, totalled $1.255 billion. Using the 10% figure as a conservative estimate, the possible savings in 2007 might have been $125.5 million. The UK has been the most aggressive with PPP on the capital side, with 15% of its infrastructure currently under PPP arrangements. The UK's National Accounting Office (NAO) estimates that PPPs have produced an average savings of 17%. Across the 2008-2017 period, the City of Edmonton anticipates spending $8.346 billion (the funded portion of the capital plan). If 15% of this amount could be contracted under PPP and produce a 17% savings, the potential over the next 10 years is $212.8 million or $21.3 million annually. Combined, the possible savings of an aggressive PPP program would be $146.8 million annually or 7.7% of the annual infrastructure funding shortfall.

These figures represent the *savings possible* based on the experience of a few examples, and are presented to show "orders of magnitude" only – what *could* be possible. PPP does not always result in savings, and neither should the prospect of savings be the single consideration for embracing PPP. Experts warn that the driver behind PPP should always be "value for dollar" and improved capital asset management, not reduced costs. Furthermore, the revenue potential is highly dependent on the level of PPP activity now underway in Edmonton. The $146.8 million assumes that Edmonton has a similar starting point than the comparison cities, and this may not be entirely valid. Any possible savings are dependent on the type of services being provided and whether PPP is appropriate for those services. In the end, the revenue potential of PPP is significant, but it also requires much more research.

OPTION #4: Visitor-Specific Selective Sales Taxes

■ *The Option:* Many large cities around the globe employ a set of selective sales taxes designed to generate revenue from "luxury" items or goods and services disproportionately consumed by visitors to the city. While local residents will also pay these taxes, the primary focus is to recoup a measure of revenue from visitors to the city who use municipal services and infrastructure, but do not contribute to the residential property tax base upon which those services and infrastructure depend. Typical visitors targeted for these taxes are commuters, business travelers, tourists, shoppers, conventioneers, and sports fans. Examples of such "visitor-specific" selective sales taxes include:

- Lodging and Accommodations Tax
- Restaurant Tax
- Bar or Pub Tax
- Beverage Tax (off-sales of beer, wine, liquor)
- Gambling Tax

The rationale for these taxes is the City of Edmonton's role as a hub for the larger metropolitan area and a regional centre for commerce and tourism. The City of Edmonton attracts a fair share of visitors each and every day, and these taxes enable those visitors to help pay for a modest share of the services and infrastructure they consume. An example is the 0.5% *Restaurant and Pub Tax* in King County, WA. The revenues from this tax are dedicated to funding King County's participation in the new Seahawks Stadium in Seattle. The tax was instituted with voter approval and will sunset after the bonds are repaid (Vander Ploeg 2002).

■ *Advantages:* Visitor-specific selective sales taxes have more than a few advantages. A large portion of the revenue generated is external revenue, and unlike a broad-based local general retail sales tax, the distorting effects of these taxes are much lower. For example, a small 3% accommodations tax on a $150 hotel room amounts to only $4.50. Compared to the total costs of a business trip (e.g., airfare, taxis, meals, accommodations) the overall effect is negligible. As long as the rate of taxation remains reasonable, these taxes should not result in a significant relocation of business activity.

In addition, visitor-specific selective sales taxes are not calculated as a static charge per unit sold, but as a percentage of the total price (e.g., a 2¢ per litre fuel tax versus a 2% tax on a restaurant meal). Thus, there is no erosion in the future purchasing power of the tax over time. Visitor-specific selective sales taxes are also quite efficient when used to fund infrastructure and attractions used by visitors such as convention centres, sports stadiums, botanical gardens, and animal parks. Taxes on alcohol and gambling are also efficient when they are used to fund things such as policing. A unique advantage here is that the City of Edmonton does have some experience with these taxes. A voluntary 1% lodging tax called the *"Local Destination Marketing Fee"* is already in place. The revenues, however, are used exclusively to fund tourism activities undertaken by the Edmonton Economic Development Corporation (EEDC).

■ *Disadvantages:* Visitor-specific selective sales taxes suffer from two disadvantages. First, they target luxury items and are likely more vulnerable to the ups and downs of the local economy. Second, visitor-specific selective sales taxes have a relatively small tax base, and can generate only modest amounts of revenue. This means that the administration and collection of these taxes must be extremely efficient and they are best employed as a supplemental tax reserved for specific infrastructure projects or services.

■ *Revenue Potential:* The potential revenue from these taxes is dependent on which taxes are chosen and the rates selected. Calculations for the City of Edmonton are difficult to generate since data on the relative size of the various tax bases are difficult to secure. However, some preliminary estimates can serve as examples. A 2% lodging tax, a gambling tax, and a liquor tax (the latter two set at 5% of the prevailing provincial rates) could have yielded combined revenue of $32.0 million in 2007. Based on historical growth over the last ten years, the basket could yield $69.9 million by 2017.

These revenues could also serve as a source of funding for the debt-financing of carefully selected projects, which is often the practice with these taxes in the US. The 2008 revenue produced by this basket could fund approximately $504.2 million in new debt immediately. If future incremental growth of the tax revenue was also used to fund debt, total borrowing of $1.016 billion could be carried out over the 2008-2017 period.

OPTION #3: Vehicle-Specific Selective Sales Taxes

■ *The Option:* Almost 60% of Edmonton's current infrastructure funding "gap" is in transportation, particularly roadways. This fact must direct attention to various "vehicle-specific" selective sales taxes that can be earmarked for transportation infrastructure. Financial analysts estimate that the current basket of "user pay" taxes for transportation in North America cover only 60% to 70% of roadway infrastructure costs, with the remainder coming from general taxation. This has resulted in artificially high demand for roadway infrastructure and has made public transit less competitive. Vehicle-specific selective sales taxation can help increase the amount of funding, and more important, bring supply and demand into closer proximity. Examples of such taxes include:

- Local Option Fuel Tax
- Local Vehicle Registration Tax
- Local Car Rental Tax
- Local Tax on Parking (Public and Private)
- Local Vehicle Ownership or "Wheel" Tax
- Special Sales on Vehicle Sales
- Driver's License Tax
- Insurance Premiums Tax
- Special Property Tax on Vehicles

■ *Advantages:* Vehicle-specific selective sales taxes are the classic case of a "user pay" tax. They are more efficient than general tax funding because they establish a link between those who use roadway infrastructure and those who ultimately pay. These taxes help fund an increase in infrastructure supply at the same time as they help keep excessive demand in check. Such taxes can also help make public transit more competitive with the private automobile. To maximize efficiency with the tax, the revenues need to be earmarked specifically for transportation infrastructure, and the amounts collected must be sufficient to cover the infrastructure needed. Across the world, governments are moving to directly charge for roadways wherever possible.

When it is not possible, the second best alternative is to fund the infrastructure out of "user pay" taxes paid by individual drivers. General taxation is a fiscal "dead-end" – it artificially increases demand and keeps public transit uncompetitive.

■ *Disadvantages:* Most "vehicle-specific" selective sales taxes are a static charge – the tax rate is fixed at a certain dollar amount per unit purchased (e.g., 5¢ per litre of fuel). Over time, inflation will eat into the purchasing power of the tax since the only revenue growth comes from increased volumes rather than a percentage of the total price which always increases over time. Such is the situation in California, which has relied heavily on vehicle-specific selective sales taxation to fund its transportation infrastructure. The value of the state fuel tax per vehicle miles travelled is estimated to be only 36% of what drivers were paying in 1970 (Dowall 2003). Much the same applies to Alberta, which has not adjusted fuel tax rates for years. Without somehow indexing these taxes, they will not serve as a long-term sustainable source of infrastructure funding. In all likelihood, "vehicle-specific" selective sales taxes will stimulate usage of public transit and lower the demand for roadway infrastructure. Consequently, the revenues produced by these new taxes could fall across the long-term as well. More work needs to be done to assess the long-term economic and fiscal impacts.

■ *Revenue Potential:* In the City of Edmonton, a 5¢ local fuel tax would have generated $98.9 million in 2007. With 524,845 registered vehicles in the City in 2007, a $30.00 annual vehicle registration charge would have raised $15.7 million. The number of registered vehicles is expected to grow to 554,714 in 2008, which would generate $16.6 million – a 5.7% increase over 2007. A special 1% tax on new vehicle sales could have yielded up to $20.3 million in 2007. With 522,965 drivers in Edmonton, a $20.00 charge on all license renewals – one-fifth renewing every five years – would have generated $2.1 million in 2007. For the City of Edmonton, this basket of "vehicle-specific" selective sales taxes would have been worth $137.0 million in 2007. Based on historical growth patterns, this basket of taxes could grow to $238.5 million by 2017 and could fund $3.468 billion in borrowing over that period.

OPTION #2:
Index Grants to Provincial Income Taxes

■ *The Option:* Cities in the British Commonwealth (e.g., Canada, Australia, New Zealand) tend to be the most heavily dependent on property taxes of any cities in the world (Smith 1997; MacDonald 2002). To ensure that their cities have sufficient financial resources, federal and provincial governments of the Commonwealth have a long standing practice of providing grants. There is a complex economic and fiscal rationale behind grants that goes beyond simply "greasing a squeaky wheel." Grants provide for vertical equity – offsetting the limited revenue produced by the property tax and helping municipal revenues match with municipal expenditure responsibilities. Grants also help offset the costs of providing infrastructure and services to visitors. Horizontally, grants help equalize the different tax bases between more wealthy and less wealthy municipalities.

In the 1990s, grants were severely scaled back and they have yet to recover to historical levels, whether that be measured in per capita inflation-adjusted dollars, as a percentage of provincial personal and corporate income tax revenue, or as a percentage of personal and corporate incomes *(Charts 1-3, Figure 14, page 33).* Not only does the debate here revolve around the level of granting, it is also about their administration. Traditionally, grants have tended to be somewhat unpredictable, ad hoc, and sporadic. Most grants are also conditional in nature. None of this matches with the long planning horizons that infrastructure demands or the need for sustaining autonomy in local decision-making.

This option would see the province of Alberta commit to sharing with the City of Edmonton a portion of the personal and corporate income tax revenue it collects by tying the level of annual operating and capital grants received by the City to growth in these two tax sources. The idea takes off from the practice in Manitoba, where the province shares 2.2% of its personal income tax revenue and 1% of its corporate income tax revenue with all municipalities. This is also the preferred method for distributing personal and corporate income taxes in many European cities.

■ *Advantages:* The larger rationale for this option spins out of the fact that large cities must continually accommodate a rapidly growing population and economy, but the bulk of tax revenue generated by that growth accrues to federal and provincial governments. This option ensures that at least a portion of local economic activity is injected back into the City of Edmonton, helping fund the infrastructure and services necessary to meet the challenges of growth. One of the problems with grants has been the lack of predictability and stability over the long-term, as well as an insufficient level of growth relative to need. Tying grants to growth in provincial personal and corporate income tax revenue would redress this situation. Grants would become highly responsive to economic growth, producing additional

revenues over time. By tying the City of Edmonton's grants to the fiscal fortunes of the province, the need to continually negotiate future granting levels is avoided. Although locally-levied personal and corporate income taxes would be more desirable from an autonomy perspective, these taxes can be too easily exported and can create significant economic distortions. While 16 US states allow some cities to levy these taxes, they are the exception. A system of tax revenue-sharing is arguably more appropriate.

■ *Disadvantages:* Many municipal finance analysts lay much of the current infrastructure problem at the feet of grant-based funding. Grants are essentially a subsidy from one government to another. Infrastructure subsidized through grants has a lower cost relative to non-subsidized infrastructure. These lower costs can result in greater spending in subsidized areas, leading to inefficiencies such as the over-provision and over-consumption of infrastructure, as well as artificially increased demand. Some analysts contend that because much of Canada's municipal infrastructure was put into place by grants, municipalities felt no need to recover the amounts through annual asset replacement charges, and this has helped fuel the infrastructure funding problem (Kitchen 2003). Grants have also been accused of distorting local decision-making, keeping cities vulnerable to the priorities of other governments, and muddling accountability by separating the government raising the revenue from the government actually spending it (Kitchen 1993).

At the same time, if cities like Edmonton are required to continue their heavy reliance on the property tax, grants will have to be an ongoing feature of the financial landscape (UNSM 2001). The challenge, then, is to create a *better* granting system. Tying the level of grants to personal and corporate income tax revenue at the provincial level, along with enhanced reporting and accountability for the funds received, is one way to accomplish this goal. However, the idea is not risk-free. Since personal and corporate income taxes are the most elastic of all taxes, the City of Edmonton must be prepared to absorb a lower level of granting if economic growth starts to slip. This necessitates proper planning on the part of the City of Edmonton, perhaps saving a portion of the grants received during periods of robust economic growth. The City of Edmonton will also have to demonstrate the advantages to the province of such a formula. This type of tax revenue-sharing essentially "earmarks" a portion of provincial revenue. Provinces have generally been unwilling to engage in this practice, fearing a loss of future fiscal flexibility.

FIGURE 14: Provincial Grants to Edmonton, 1990-2007

CHART 1: Provincial Grants in Real Per Capita Amounts

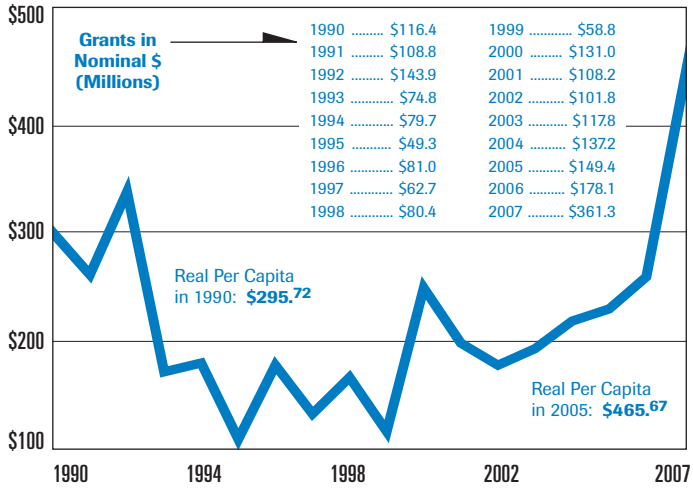


CHART 2: Grants as a % of Provincial Personal and Corporate Income Tax Revenue

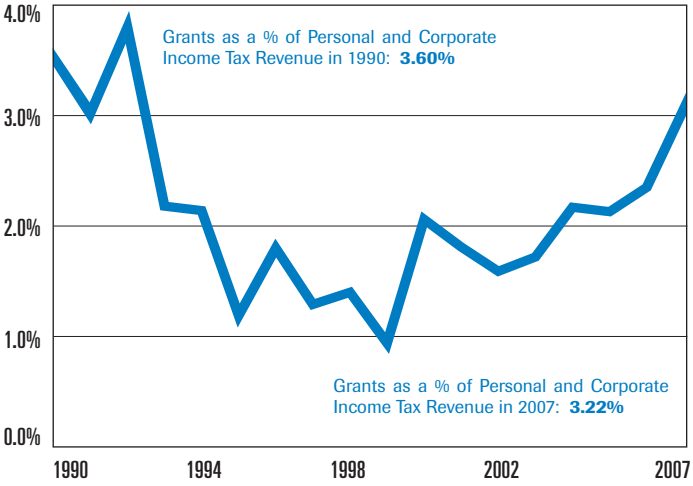
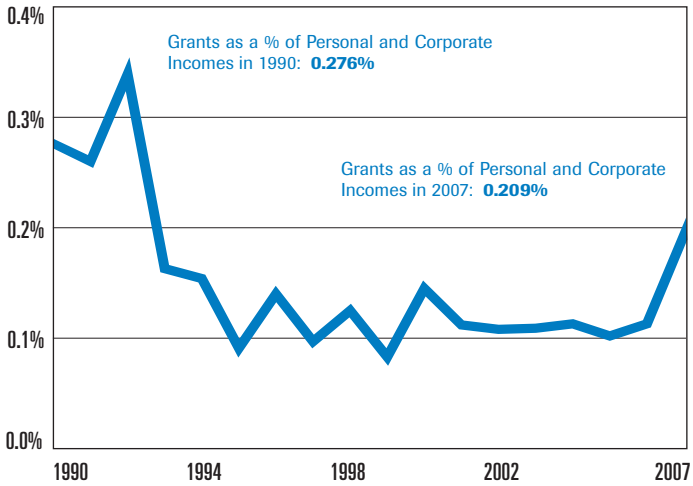


CHART 3: Grants as a % of Provincial Personal and Corporate Incomes



SOURCE: Derived by Canada West Foundation from Alberta Budgets (1990-2007), Annual Financial Reports of the City of Edmonton (1990-2007), and Statistics Canada.

■ *Revenue Potential:* There are two possible ways that grants could be indexed. First, grants could be tied to the personal and corporate income tax revenue collected by the province. This is the method employed by the province of Manitoba. A second approach is to index the grants to actual personal incomes or corporate profits earned in the province, and then return a level of grants as a fixed percentage of those two tax bases.

The power of indexing can be demonstrated by a brief historical analysis. From 1990-1998, the grants received by the City of Edmonton averaged 2.27% of provincial personal and corporate income taxes paid to the provincial government. If that ratio had stayed in play between 1997-2006, the City would have received an additional $312.5 million over the past ten years, or $31.3 million annually. To be sure, reduced grants were part of the plan to fix Alberta's deficit. Furthermore, in 2007 Edmonton had received some of the largest provincial capital granting support in recent history. But by 2007, grants had still not fully recovered. In 1992, the grants received by the City of Edmonton were 3.80% of all personal and corporate income taxes collected by the province. If that same 3.80% were in play in 2007, Edmonton would have received an additional $65.3 million in 2007 alone.

If grants had been indexed to actual personal incomes and corporate profits earned in the province, the amounts would be even larger. In 1992, all grants received by Edmonton were 0.339% of personal incomes and corporate profits in the province. If that ratio were in play in 2007, the City would have received an additional $225.1 million in grants that year alone. To be fair, the early 1990s saw the province in the grip of an economic recession – personal and corporate incomes were depressed and the province itself was deficit financing its own spending. Thus, applying ratios from the early 1990s might be too extreme.

Thus, looking forward across the 2008-2017 period, it might be more reasonable to simply apply an average historical ratio and then estimate the revenue potential. Between 1990 and 2007, grants averaged 2.13% of all personal and corporate income taxes paid to the province of Alberta and 0.152% of all personal incomes and corporate profits. If personal incomes and corporate profits continue to grow in the future as they have in the past, indexing grants to the first ratio could yield a total of $4.098 billion over the next ten years (scenario #1). Indexing to the latter ratio could yield $4.798 billion (scenario #2). Because the grants would be relatively predictable and grow over time, they could also be used to fund some serious debt financing.

If these potential grant receipts were used to fund borrowing, the City of Edmonton could fund up to $8.697 billion in debt under the first scenario and up to $10.566 billion under the second. Whether that would be advisable or not is beside the point. The fact of the matter is that tackling an infrastructure funding "gap" that runs into the billions requires some serious dollars. In turn, that requires big changes, particularly in how things have been handled in the past.

OPTION #1: SPLOST or Penny Tax

■ *The Option:* SPLOST taxation is emerging as one of the most powerful ways to fund infrastructure investment at the local level in various places across the US. The SPLOST acronym stands for "Special Purpose Local Option Sales Tax" and is distinguished from the more generalized "Local Option Sales Tax" levied by US counties for general operating fund purposes. SPLOST taxation is a broad-based general retail sales tax levied at the local level. Unlike other sales taxes, SPLOST taxes tend to incorporate several features that make it a relatively popular method of funding infrastructure.

For example, most SPLOST taxes are capped by state legislation or the state constitution at 1%. Thus, the popular moniker of the "penny" tax. To be imposed, the tax requires voter-approval via referendum, typically held in conjunction with a local election. In establishing a SPLOST tax, governments prepare a list of infrastructure projects to be funded by the tax. This list, and a proposal for the tax, are then placed on the ballot at a regular municipal election. If approved, the tax is imposed, the projects proceed, and government follows up with an annual report on the tax to ensure accountability. Thus, all SPLOST revenues are earmarked for specific infrastructure projects. In some jurisdictions, any additional revenue over and above what was expected must be returned to local taxpayers in the form of a property tax abatement. SPLOST taxes typically lapse or "sunset" every five or six years – unless they are reinstated through another referendum.

■ *Advantages:* The key advantage of a local general retail sales tax established along the SPLOST model is a direct link to economic growth through retail activity. Unlike the property tax, revenue from a retail sales tax tends to keep pace with a growing economy. A small local sales tax of 1% applied across a wide base can generate significant revenue, and as long as

retail sales are growing, both the size of the tax base and its value increase. Thus, it is not necessary to increase the tax rate to receive a stream of steadily growing revenue. Broadly-based general retail sales taxes provide good revenue generating capacity, and inflation is always captured in the price of the goods and services sold – there is little to no long-term erosion in the future purchasing power of the tax.

For the City of Edmonton, a SPLOST tax would be of particular benefit. Edmonton is one of the more fragmented city-regions in Canada. Almost 30% of the census metropolitan area (CMA) resides outside the City of Edmonton, and the City itself is surrounded by dozens of separate urban and rural municipalities. A specific advantage of a SPLOST tax is how it provides better fiscal equivalence across the city-region. Visitors who come into Edmonton can help cover the costs of the infrastructure and services they consume.

In addition, a SPLOST-style general retail sales tax provides a unique opportunity for increased participation of citizens in the infrastructure decision-making process. Further, governments also issue an annual report on the SPLOST tax as well as a final report after the tax sunsets. All of this enhances public accountability and transparency with the usage of the tax.

- *Disadvantages:* General retail sales taxes are an elastic form of revenue, and are thus vulnerable to changing economic conditions, particularly a slowdown in the local economy. As such, general retail sales taxes are best employed as a supplement to the property tax. If not properly implemented, general retail sales taxes can also create distortions in the local economy by shifting consumption patterns to jurisdictions without a sales tax. Specific strategies to mitigate distortions include applying a harmonized tax across the entire metro area or providing exemptions for expensive items. The degree to which this is required in Edmonton is not clear. Given Edmonton's rapidly expanding economy, potential distortions may be less likely. The potential distortional effects of the tax are related to the degree by which it will affect the overall cost of various goods and services. It is one thing to impose the tax in Edmonton, and quite another in an economy with more modest rates of growth such as Winnipeg or Regina. Also, most local general retail sales taxes "piggy-back" off of state or provincial sales taxes. Alberta currently has no general retail sales tax. This complicates administration of such a tax in the City of Edmonton, although that issue is not insurmountable.

- *Revenue Potential:* A small local general retail sales tax has the capacity to generate substantial revenue to address Edmonton's infrastructure funding shortfall. A simple benchmarking off of federal GST receipts indicates that a 1% SPLOST tax would have generated $171.4 million for Edmonton in 2007. Between 1997 and 2006, a local 1% sales tax would have generated $1.086 billion in revenue. But this does not even begin to measure the overall contributions of such a tax. Because sales taxes are so responsive to growth, it is important to assess how sales tax revenue might grow over the 2008-2017 period.

Assuming that the annual average growth rate in GST receipts will hold and can be applied across the 2008-2017 period, a 1% sales tax in Edmonton would yield $186.1 million in 2008 and reach upwards of $391.1 million in 2017. The annual average sales tax revenue produced over the same period could be $277.5 million. Because the tax would require voter imposition every five years or so, it would not be possible to fund any long-term debt with the revenue. However, it might be possible to fund some smaller amounts of short-term borrowing.

SUMMARY: Experience around the world shows that the City of Edmonton is very restricted in terms of the techniques it can use to finance, fund, and deliver infrastructure. In order to put into play emerging best practice in infrastructure provision, the techniques open to the City of Edmonton should be intentionally diversified. This diversification can be achieved in a number of ways, including the use of PPPs to better deliver infrastructure and supplementing the property tax with other forms of taxation. Top on this list would be "visitor-specific" and "vehicle-specific" selective sales taxes. The greatest opportunity, however, comes in the form of SPLOST taxation. This democratically instituted and earmarked tax would go a long way in reducing the infrastructure funding shortfall in the City of Edmonton, and with the federal GST recently cut by 2% points, there is some tax room into which the City could step. However, if the province resists expanding the City's taxation authority, then the best fall-back alternative would be new tax revenue sharing. One idea here is to index the grants received by the City to growth in personal and corporate incomes, or the personal and corporate income taxes paid to the province. In the final analysis, the City of Edmonton must be allowed to recoup a fair share of the tax revenue produced by economic and population growth occurring in its own local boundaries. If this is not forthcoming, closing the infrastructure funding "gap" becomes a very remote possibility indeed.

"In-the-Box" OPTIONS

Each idea above represents a rather significant departure from traditional Canadian practice, and securing such changes will not occur easily or quickly. In fact, each option will require more than a little heavy lifting over the long-term. But cities like Edmonton cannot afford to wait. Deferring needed infrastructure investments today means even higher infrastructure costs down the road. In the interim, the City needs to consider other options as well.

OPTION #5: Seek Incremental Wins Under the Status Quo

■ *The Option:* Dramatic policy shifts are difficult to secure. One option currently favoured by many municipalities is to simply "muddle-through" by seeking incremental changes that do not significantly alter the status quo. Options under the status quo embrace everything from additional provincial capital grants to expanded and improved tri-partite infrastructure agreements. The argument has also been made that provinces should cede tax room to municipalities by withdrawing primary and secondary education funding from the local property tax base.

■ *Advantages:* Regardless of what can be said about the status quo from an economic or fiscal perspective, it does remain politically attractive. Working within the status quo entails very few risks, as long as one is prepared to overlook the threat of higher infrastructure costs down the road. Further, blame for the infrastructure funding shortfall can always be cast elsewhere. The City of Edmonton has survived under the status quo, and will continue to do so in the foreseeable future.

■ *Disadvantages*: At the same time, mere survival is hardly an inspiring vision for Edmonton's future. The status quo essentially amounts to the City continuing to go "cap-in-hand" to the province. If the cap is not sufficiently filled, the future will be marked by steadily eroding infrastructure and a deteriorating quality of life. This is not the way to a more prosperous future.

■ *Revenue Potential:* Calculating the revenue potential is difficult given the variety of options that can fit into this category. However, three examples do come to mind. First, suppose Edmonton were successful in securing a 20% increase in its total grants from the province. Such a "win" would have resulted in an additional $72.3 million in 2007.

A second "win" might see another round of federal-provincial-municipal tri-partite infrastructure funding programs. From 1994-2003, these programs injected $13.370 billion of federal funding into infrastructure across the country. A similar program set at twice this amount over the 2008-2017 period would see Edmonton receiving an additional $125.7 million in federal and provincial grants, assuming that the funds were distributed on a per capita basis, that the province would match the federal funding, and that Edmonton could come up with its one-third share.

A third and very large "win" under the status quo that is often discussed is having the province cede the education property room to municipalities. In Edmonton, this would have meant an additional $282.8 million in 2007.

Each of these options is problematic. Simply seeking a 20% increase in grants (or 30% or 40%) is quite arbitrary. With respect to a new national infrastructure program, Ottawa has already cut the GST paid by municipalities and has insistuted a new formula for sharing fuel tax revenue. The option of reclaiming the education property tax room in Alberta has been short-circuited by the new MSI program, which will return grants to Alberta municipalities based on the amount of education property tax the province collects. In short, there is not a lot of traction to be found within the fiscal status quo.

OPTION #4: A "User Pay First" Policy

■ *The Option:* With this option, the City of Edmonton would build a consensus around the merits of user fee funding, pursue emerging best practice in infrastructure provision, and submit all infrastructure and services to a rigorous test for marketability. Marketable assets and services open the possibility of direct user fee funding with self-financing debt – providing the infrastructure without spending tax dollars.

A consensus around a "user pay first" policy can be constructed around three principles. First, user fees should be applied to each and every infrastructure asset and service as possible and practical. The only exceptions to this general rule would be where user fees would produce intolerable distributional equity concerns for those with low or fixed incomes. But even here, rebates and various "ability-to-pay" offsets should be considered before general tax-based funding.

Second, the City would aim to accurately price its services and infrastructure by aligning the fees charged with actual costs. This would spin off in many different directions. The City would work to ensure full cost recovery of operations, maintenance, and future capital wherever possible, and would also explore marginal cost pricing models over average cost pricing. Flat rates and constant unit rates would give way to variable rates, volumetric tariffs, peak period pricing, and differential fees for non-citizens. With respect to developer cost charges (DCCs), uniform fees would give way to variable DCC fees calculated according to the costs of providing on-site infrastructure as well as meeting off-site infrastructure needs that build up downstream of new developments.

Third, infrastructure and services that depend on tax-based funding would be moved to user pay wherever possible. An element of user pay can also be injected into services currently financed through taxation. All water treatment and distribution, wastewater collection and treatment, storm water drainage, solid waste collection, and recycling would be funded through user fees as opposed to taxation. Under certain conditions, selected roadways, tunnels, and bridges can also be funded through user pay, particularly considering recent advances in digital communications and GPS technology. Again, the idea is to allow the characteristics of a particular infrastructure asset to serve as the primary driver guiding decisions over financing, funding, and delivery.

■ *Advantages:* A consensus around user fees recognizes that closing the infrastructure funding "gap" cannot focus on the *supply* side of the issue alone – more funding for more infrastructure. The question of *demand* must also be considered (Dowall 2000). The best way to bring supply and demand into closer proximity is to draw the tightest possible link between those who use infrastructure and those who pay. User pay provides infrastructure funding at the same time that it helps keep demand in check.

User fees and accurate pricing help maximize efficiency and represents a more sustainable solution over the long-term. The effects of efficiency in infrastructure delivery are evident when comparing systems funded entirely by user fees with those funded by taxation or a system of partial cost recovery. For example, numerous studies on water infrastructure have shown that the systems meeting today's high standards are the very same systems where user fees have served as the source of funding, and where correct water rates have been charged (Gore and Storrie 1999). User fees are one of the biggest reasons why municipal utilities are in generally good condition and why the funding challenge essentially lands on infrastructure supported by the tax base.

Most importantly, user fees also reserve other funding sources for infrastructure that can be financed in no other way. Whenever needs exceed the available financial resources – and they always do – difficult choices have to be made. Does the bridge get fixed or does the recreation centre get built? Does the new road go ahead or the new recycling facility? If the bridge and the new road can be tolled, and the recycling facility can be built on a completely user pay basis, that leaves tax dollars for the recreation centre, which likely cannot survive on its own cash flow. All four projects may be able to go ahead. A "user pay first" policy may be able to shorten the list of tough choices, reserve tax capacity, and allow more projects to proceed.

■ *Disadvantages:* If a gain in efficiency is the single largest advantage of user fees, then a loss of distributional equity is the primary disadvantage. User pay pricing is often criticized because it is a less equitable way to fund public infrastructure and services. In other words, user fees are regressive. But this is not the whole story. Equity is a multi-dimensional concept that includes notions of vertical and horizontal equity, as well as intergenerational equity. For example, taxation is vertically equitable – universal access is guaranteed regardless of income. But taxation is not at all horizontally equitable – individuals do not pay for what they consume. This is not the case with user fees, which are very horizontally equitable.

At the same time, user fees can be designed with fairness to lower income persons in mind. Strategies include rebates, special rates, and other "ability-to-pay" offsets such as regulated tariffs, means-testing, and voucher systems. The cost of such initiatives has been reduced given advances in digital technology that allows "smart cards" to access lower user fees. Partial cost recovery through user fees can also be used.

The issue of equity is a complex matter. Some even question whether tax-based funding at the local level can provide vertical equity. If the local tax regime bears heavily on the less wealthy, then tax-based funding can be just as regressive as user fees. This may indeed be the case for local tax systems that are heavily dependent on the property tax. Others suggest that vertical equity issues with municipal infrastructure and services have been overstated, if not entirely misunderstood. For example, assume that a city decides to subsidize with taxation all of its water service to help those with low incomes. Because of the tax subsidy, more water is used and more infrastructure is demanded. This raises the total cost of providing water to everybody. But who is subsidizing whom?

The answer depends on who consumes the most water. Is it low income folks who live in an apartment with a small patch of grass beside the walkway? Or is it the wealthy with the huge lawn out front, the pool out back, the jetted tub inside, and the large SUV to wash in the drive? In such circumstances, it may will be higher income households that are being subsidized (Slack 1996). The cross-subsidization of municipal infrastructure and services is a complex issue, and is virtually impossible to sort out. However, some argue that if the real nature of this redistribution could be known, most would find it unacceptable (Kitchen 1993).

■ *Revenue Potential:* The revenue potential of a "user pay first" policy is difficult to determine, and this often makes decision-makers wonder if the idea is worth the trouble. To the extent that the City of Edmonton is already employing correct pricing, user fees may have limited potential for growth. For user fees to contribute meaningfully to an increase in total infrastructure funding, the City of Edmonton would have to substantially increase user fees relative to the costs of providing services. Unless those services are currently underpriced, however, this would violate the principle of proper pricing. Simply for demonstration purposes, if Edmonton were able to effect a 10% increase in user fees across the board, the result would have been an additional $46.7 million in 2007.

One area with some potential might involve the whole matter of local improvement levies. The use of these charges has fallen into general disuse in the City of Edmonton, as well as in other cities across western Canada. In 1990, for example, the City of Edmonton received almost $30 million in local improvement levies. By 2007, that had slipped to $9 million.

Across the entire 1990-2007 period, however, local improvement levies did average about 5.0% of total property taxes paid. If the City of Edmonton were to move their usage of local improvement levies back to this level, local improvement levies would have provided an additional $23.4 million in 2007. If that ratio were maintained, and based on historical growth in property taxes, local improvement levies could provide $408.7 million over the next ten years, or $40.9 million annually. Local improvement levies are often used as a source of funding for local improvement debt. Under this scenario, local improvement fees might be able fund $833.9 million over the course of 2008-2017.

THE DYNAMICS OF USER PAY

User pay quickly dispels the myth that public goods and services are somehow "free." It ensures that an increase in demand for services and infrastructure will be covered by those who want those services, and are also willing to pay for them. User fees create a fiscal dynamic where people use only what they need as opposed to what they want. User pay forces people to internalize the costs of their behaviour and modify that behaviour to avoid wasting their own money.

This is no small consideration. The municipal infrastructure challenge is not just a question about supply — how to get the necessary financing and funding to increase the amount of infrastructure investment. It is also very much a question about demand. Funding infrastructure through taxation when user fees could be employed artificially increases the demand for infrastructure beyond what people are actually willing to pay. User fees keep the demand for infrastructure in check, while taxation causes demand to rise.

Tax-based funding is the equivalent of the "all-you-can-eat buffet." For the same low price, everybody can eat as much as they want. As a result, the "all-you-can-eat buffet" goes through a lot of food. User fees are the equivalent of the "pay-by-the-ounce" salad bar. Here, everybody eats according to what they are willing to pay. Less food is consumed. Similarly, taxation is like sharing the total restaurant bill equally. This encourages some individuals to eat more because those who eat less will be paying for a portion of their bigger meal. A user fee approach sees everybody paying their own part of the bill according to what they ordered. The total bill is lower because everybody eats according to what they are willing to pay. The examples are not just economic theory. In Canada, studies show that the average household use of water by those who pay a flat amount can be up to 70% higher compared to households that pay according to usage.

How infrastructure is financed, funded, and delivered carries huge implications. If general taxation is the funding choice, then heavy users of the infrastructure will arguably be subsidized by light users. This has the effect of artificially increasing demand, and is a recurring problem with transportation infrastructure. Because of the way it is funded, governments will never be able to provide enough capacity. It also leads to higher total costs. However, if individual drivers can be charged for the full range of costs associated with building and maintaining roadways, they would drive less and choose more efficient alternatives, whether that be car pooling, cycling, or public transit. The demand for roadway infrastructure would diminish.

In many ways, the revenue potential of user fees is anticipatory and restricted to recovering the costs of new services and infrastructure, and any expansion of current services. If the City of Edmonton needed to expand traffic enforcement for example, a "user pay first" policy might direct that the increased policing costs be funded through traffic ticket revenue as opposed to a city-wide increase in general property taxation. To be sure, some will argue against such an approach. At the same time, it must be realized that no perversion of justice need occur – if one does not break the speed limit, one does not get a traffic ticket.

Across the globe, governments are seriously considering how new technology can be applied to allow the imposition of user fees to areas that were previously "off-limits." For example, ongoing developments in remote sensing technology, digital communication, and satellite GPS systems are being used to develop "smart" odometers that have the potential to track the miles travelled by individual vehicles. In the future, it may soon be possible to install a fully functioning meter in every vehicle that allows drivers to be directly charged based on what they drive, where they drive, when they drive, and how much they drive. In Europe, some governments have mused about removing all "vehicle-specific" selective sales taxes and requiring vehicles to be metered – a direct user pay system for roadway infrastructure.

The potential impact of this approach represents a sea change in transportation funding. For the first time, user pay can be applied to all roadway-related infrastructure. The implications from a funding perspective are simply astounding, not to mention the ripple effects on other modes such as public transit. For cities like Edmonton, the potential savings could well run into the billions of dollars. The world is rapidly changing. Establishing a "user pay first" policy would allow the City of Edmonton to do some leg work now and better prepare for a future that may look radically different than today.

OPTION #3:
Full Earmarking of Property Tax Revenues

■ *The Option:* Earmarking refers to the practice of assigning a portion of tax revenue to specific expenditures. The strategy here is to regularly direct a certain amount of tax revenue toward an identifiable and high priority goal by carving revenue away from general purposes and providing a guaranteed flow of income for a specific purpose. Earmarked revenues are always kept distinct from general revenues.

Broadly speaking, earmarking can go forward in one of two ways. First, municipal budgeting practices can be amended to formally earmark a predetermined portion of *existing* property tax revenues to support infrastructure. This would involve separating the current property tax mill rate into two components – an operating portion and a portion for capital. Both components would appear as separate line items on annual property tax statements.

Second, a municipal budgeting policy can be framed to direct a portion of the revenue growth that accrues from *expansion* in the property tax base to general capital purposes. For example, the City of Saskatoon currently allocates one-third of annual assessment growth to its capital base or "pay-as-you-go" envelope. Since 1998, the policy has resulted in an additional $1.3 million in annual funding for capital on an ongoing basis.

Within these two broader approaches, earmarking can take one of three forms, each differing in terms of degree. Tax revenues can be earmarked for infrastructure in general (i.e., the capital fund), for specific capital purposes (i.e., roadway rehabilitation), or specific infrastructure projects (i.e., a new sports stadium). Earmarking can therefore be of a more general nature or it can be highly specific. Whatever route is chosen, all earmarking must go beyond dedicating funds internally – a practice already followed in some Canadian cities. To be effective, earmarking must result in a new structure for individual property tax statements – a portion for general operating purposes and a portion for infrastructure in general or specific infrastructure purposes and projects.

■ *Advantages:* Earmarking shields and insulates infrastructure funds from various legislative and political pressures and provides greater stability and continuity of funding. This can facilitate the execution of projects and also reserve funding for the more difficult types of infrastructure spending, such as maintenance. In other words, earmarking helps infrastructure compete against program spending, whether that is policing, EMS response, or community social services. Earmarking also results in better accountability, which is always enhanced whenever there is a clear connection between a tax source and an expenditure. This tighter connection allows governments to build more public support for specific projects if only because the outcome is more obvious. In many ways, earmarking reflects the benefits principle of taxation by drawing a direct link between costs and benefits.

■ *Disadvantages:* The biggest disadvantage to earmarking is how it creates rigidities in the budgetary process. Some argue that earmarking is inefficient, binding decision-makers to outdated priorities that can lead to over-investment in specific sectors and result in projects that are less economically and socially beneficial than other alternatives. To get around these difficulties, some jurisdictions have resorted to borrowing against surpluses in various earmarked trust funds and reserves to finance facilities that do not benefit from earmarking. This violates the very principle behind earmarking and leads to even greater budgetary confusion.

Thus, successful earmarking is very much a question of finding the right balance. To be sure, this balance is not always easy to strike, but earmarking should not be summarily dismissed. Rather, reviews and efficiency audits of current earmarking practices should be conducted on a regular basis, and modifications made when appropriate. Only a portion of tax revenue can be practically earmarked at any one time. If earmarking is taken too far, it will undermine the principle of a unified budget, hamper effective budgetary control, and unduly infringe upon executive and political decision-making.

■ *Revenue Potential:* Property taxes are inelastic, highly visible, and very transparent. All of this makes raising revenue from the tax politically difficult. Earmarking helps lower political and public resistance by showing taxpayers what they receive for what they pay. In 2007, a 2% increase in property tax earmarked for infrastructure would have raised $15.2 million. That amount could fund a $221.0 million debenture bond. Increasing property taxes by 1% each year over 2008-2017 and earmarking the revenue to fund debt would allow the City to borrow at least $1.1 billion. Actual amounts would likely be higher since each cumulative 1% increase is larger than the previous one as the assessment roll continues to expand.

OPTION #2: Use "Smart Debt"

■ *The Option:* Smart debt recognizes that borrowing is a valid form of infrastructure financing, and seeks to build consensus around the usage of debt by emphasizing its role as part of any long-term capital plan. Smart debt realizes that "pay-as-you-go" cannot accommodate all infrastructure needs, nor should it. Smart debt sets out broad parameters on how a city should borrow. Typically, the idea comprises five components.

1) Appropriate projects for borrowing: Smart debt recognizes that not all infrastructure projects are equally suited for tax-supported debt financing. Appropriate candidates include large projects involving substantial sums that also provide well-defined benefits to the community. Such projects are one-time or non-recurring in nature, they have long asset lives, and can also lever additional financing elsewhere.

2) Appropriate levels of tax-supported debt: Second, smart debt understands that the health of a city encompasses more than a debt-free balance sheet. Smart debt identifies a sustainable level of borrowing or some notion of optimal debt relative to current operating revenues and anticipated growth of that revenue. In other words, smart debt requires cities to work through the subjective question of their tolerance for debt. Runaway debt and a debt-free city are extremes to be avoided. Between the two lies a reasonable and sustainable level of debt.

3) Appropriate amortization terms: Third, smart debt sets out policies regarding debt amortization (e.g., 10, 20, 30 years). Under smart debt, amortization is not set arbitrarily or with the sole consideration being lowest cost. Rather, amortization terms reflect the life of the asset. Amortization terms today tend to be in the 10 to 20 year range, but in the past, they have stretched out as long as 30 years or more. Longer amortization lowers the annual costs of debt servicing, but it does entail the payment of more interest. But the additional interest is offset by inflation. Smart debt understands that longer amortization periods are more than reasonable for assets with a life span of 50 or even 100 years.

4) Appropriate debt structure: Fourth, smart debt sets out policies on debt structure. Regular amortized debt with both interest and principal being paid in equal installments is the most common, but other options are available as well. Retractable or bullet-style debt sees only the interest being paid for the first half of the term with principal payments added in for the second half. This debt can be used to advance desperately needed infrastructure. Debt structure also speaks to things such as serial or sinking fund debt.

5) Appropriate plan for repayment: Finally, smart debt recognizes that borrowing can only finance infrastructure and the borrowing itself must be funded. Before issuing debt, cities draw up a comprehensive repayment plan. A good repayment plan incorporates the concept of earmarked taxation to build public support for increased capital spending and the issuance of debt. It is easier to sell the public on incremental tax increases when they are earmarked for projects that are highly valued.

The most contentious feature of any smart debt policy is building a consensus around what constitutes a tolerable level of borrowing over the long-term. Achieving agreement here is difficult because of the subjective nature of the question. At the same time, there is a way to conceptualize the issue and sharpen the debate *(Chart 1, Figure 15).* The process starts by recognizing that the tax revenue of most governments tends to grow over time. To be sure, the inelastic nature of the property tax means that the trend line for the City of Edmonton will be relatively shallow, but tax revenues will still exhibit at least some growth. Against this tax revenue growth several "scenarios" can be plotted.

When the cost of servicing debt grows faster over the long-term than tax revenue, the pattern is both unreasonable and unsustainable. This is *Scenario #1,* and it reflects the situation faced by the federal government and most provinces in the late 1980s and early 1990s. *Scenario #1* is unreasonable because the growing cost of debt will continue to chip away at tax revenue and crowd out other expenditures. Left unchecked, debt servicing costs will eventually consume all tax revenue. *Scenario #3* sees the costs of debt service flatlining, while *Scenario #4* sees a negative growth pattern. Given the huge infrastructure challenge facing the City of Edmonton, both scenarios are unreasonable and unrealistic as well.

Thus, a reasonable and sustainable level of debt lies somewhere between *Scenarios #2 and #3,* which would see the outstanding stock of debt and debt servicing costs increasing over time, but never at a pace that outstrips tax revenue growth over the long-term. Over time, the tax revenue and total operating revenue of Edmonton will grow as the tax base expands and assessed values rise. There is no deterioration in the City's fiscal position if outstanding debt and the costs of debt servicing grows in proportion to the growth in total revenues – assuming of course that taxes are not intentionally raised beyond beyond reasonable levels *(see "Doable" Option #1 on page 44).*

The City of Edmonton has not always fared that well considering the general concept of smart debt. Starting in 1991, Edmonton's net tax-supported debt started on a steady downward pattern. In fact, tax-supported debt was almost completely eliminated in 2003 *(Chart 2, Figure 15).* Throughout most of the 1990s, the City of Edmonton was arguably following an "unreasonable" debt policy. Since 2003, however, Edmonton's tax-supported debt has been on the rise, which reflects a revised borrowing policy passed by the City in 2002. This represents the start of a much more balanced view of the role of tax-supported debt in infrastructure financing, which is encouraging.

FIGURE 15: The Concept of "Smart Debt"

CHART 1: Coming to Grips with a Sustainable Level of Tax-Supported Debt

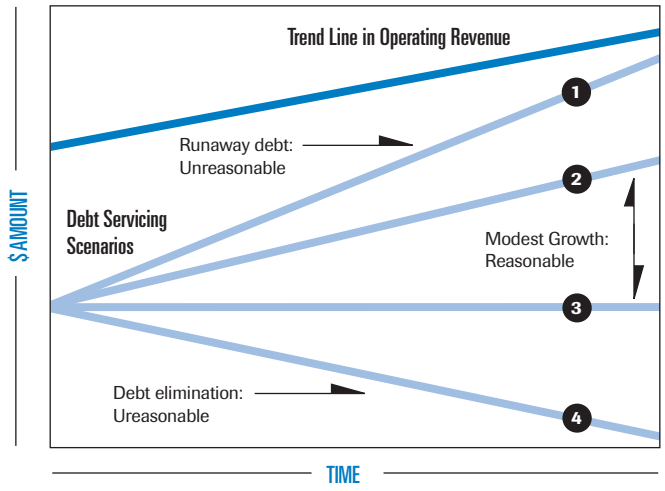


CHART 2: Edmonton Tax Revenue and Tax-Supported Debt, 1990-2007

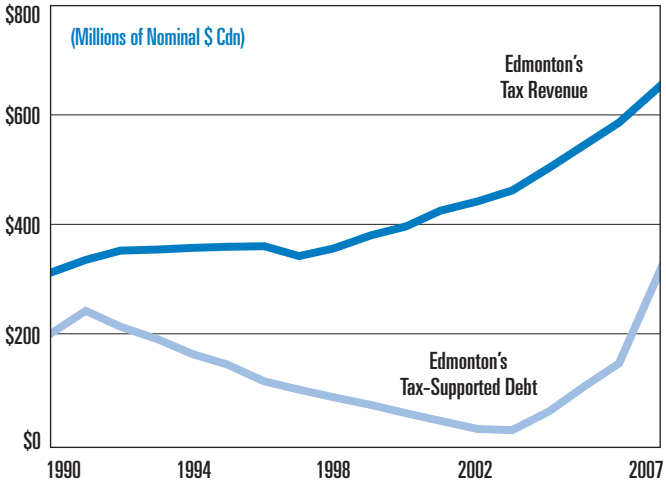
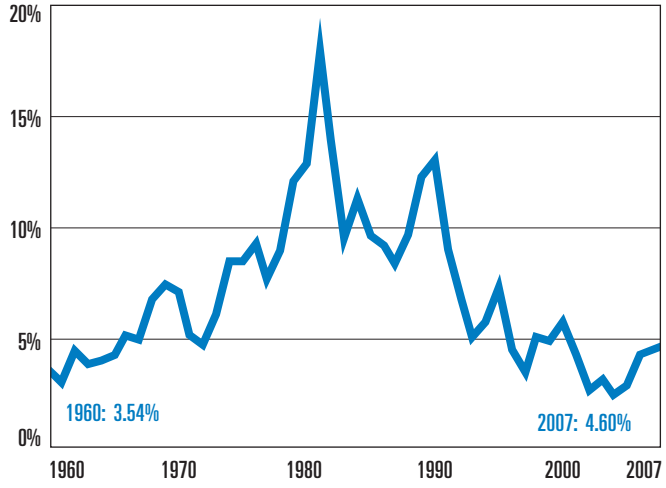


CHART 3: Bank of Canada Rate, 1960-2007



SOURCE: Annual Financial Reports of the City of Edmonton (1990-2007) and Statistics Canada.

Indeed, the timing for expanding the role of debt could not be better. Interest rates today are among the lowest seen over the past 45 years *(Chart 3, Figure 15, page 41).* For cities with the capacity and the need to borrow – and that includes the City of Edmonton – there may be no better or cheaper time than now.

To round out discussion over the smart debt option it is important to understand the three stages of addressing a deficit – whether it be a budget deficit or an infrastructure funding deficit. First, growth in the deficit needs to be arrested (ensure the bleeding does not get worse). Second, the deficit needs to be closed (the bleeding must be staunched). Third, the accumulated infrastructure "debt" resulting from annual "deficits" needs to be addressed (the spilled blood needs to be cleaned up).

The potential of smart debt operates within the first step, and there are four different approaches (*Figure 16, page 43).* The first approach *(Chart 1)* sees the entire annual funding "gap" – the blue line growing over time – financed in the short-term by debt. In this scenario, debt solves the short-term funding crunch but the amount of debt quickly bumps up against a previously set tolerance level. At that point, borrowing must stop or only grow incrementally. The funding "gap" reappears, and its size continues to grow. Little has been gained. A second approach *(Chart 2)* sees borrowing ramping up over the short-term after which the pace slows to keep debt levels tolerable. This addresses immediate high priority needs, but may not arrest long-term growth in the funding "gap." The third approach *(Chart 3)* sees modest borrowing annually against an operating budget that is growing as well. If borrowing proceeds at a slightly slower pace than the growth in operating revenues, then the costs of servicing debt relative to the budget do not rise and debt can be used more effectively over time. This may have the potential to limit part of the growth in the "gap" over a longer-term. A variation on this approach *(Chart 4)* is to borrow substantially, but only in certain years. In the intervening years, debt is repaid, but then ramped up even higher once again. This approach has been evident in other western Canadian cities such as Saskatoon.

■ *Advantages:* The immediacy of borrowing is a significant advantage when it comes to infrastructure. Debt-financing is a source of instant revenue, providing governments with significant funds for up-front financing. Borrowing allows desperately needed infrastructure projects to proceed today as opposed to deferring them until enough "pay-as-you-go" funds have accumulated. Borrowing does this by easing the inevitable cash flow problems that surround large investments. Borrowing also smooths infrastructure investments be spreading the costs over time. To the extent that the term of the borrowing matches both the economic and physical life of an infrastructure asset, debt-financing is both effective and efficient (Dowall 2000). Debt is a particularly good approach if it can also lever more capital dollars elsewhere, whether that be federal or provincial grants or participation from the private sector.

A significant advantage of debt-financing is its ability to promote a measure of intergenerational equity in the financing of infrastructure. Debt-financing allows future generations who stand to benefit from infrastructure to also contribute financially through interest and principal costs that will be paid down the road. Unlike strict "pay-as-you-go" financing, debt-financing allows the costs to be shared between the generation doing the building today and generations who stand to benefit in the future.

■ *Disadvantages:* A popular criticism against borrowing is the interest charged on outstanding debt and how it increases the total costs of infrastructure. While this complaint has attracted numerous proponents, it ignores three facts. First, debt-financing infrastructure today avoids having to pay for the inflation that will increase the cost of that infrastructure tomorrow. Inflation alone can double or even triple the costs of infrastructure over a 20 year wait time. Second, debt is largely repaid with dollars that are worth less than when the debt was incurred. Again, this is due to inflation. Third, as time progresses, any debt incurred, and the interest that accompanies it, becomes less and less onerous as the local population grows, the economy and local tax base expand, budgets increase, and incomes rise. Funding the first few years of a large long-term bond may indeed be tough, but the pressure inevitably eases with time. So while debt carries a cost in terms of interest, that cost is more than offset by inflation, population growth, and future economic expansion.

The real disadvantages lie elsewhere. The biggest downside is less flexibility to address unforeseen needs. This possibility must be factored into decision-making over appropriate debt levels. Further, debt policies need to be flexible enough to respond to shocks in operating revenues. While this can be a challenge, the reliable flow of revenue from property taxation reduces this risk. Despite the many advantages of borrowing, it is still viewed as a fiscal evil, and public perceptions can get in the way of a rationale approach to borrowing. Cities like Edmonton where the future prospects for growth are positive should borrow. Cities where the future is less certain, should be more cautious.

FIGURE 16: Identifying a "Smart" Debt Strategy

CHART 1: An Unwise Approach to Debt Financing

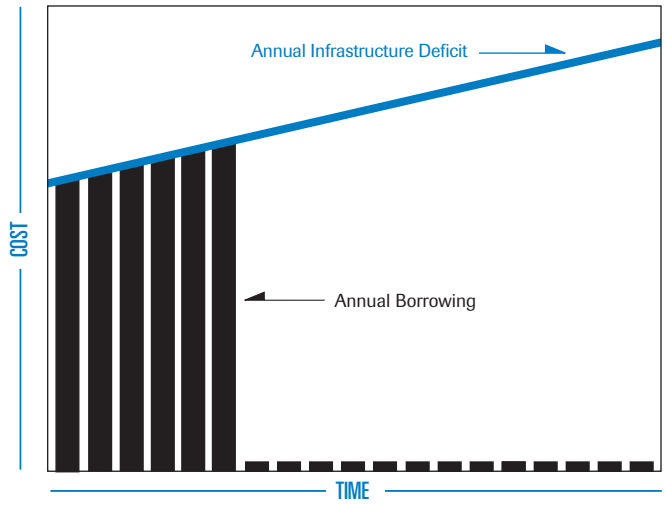


CHART 3: A Smarter Approach to Debt Financing

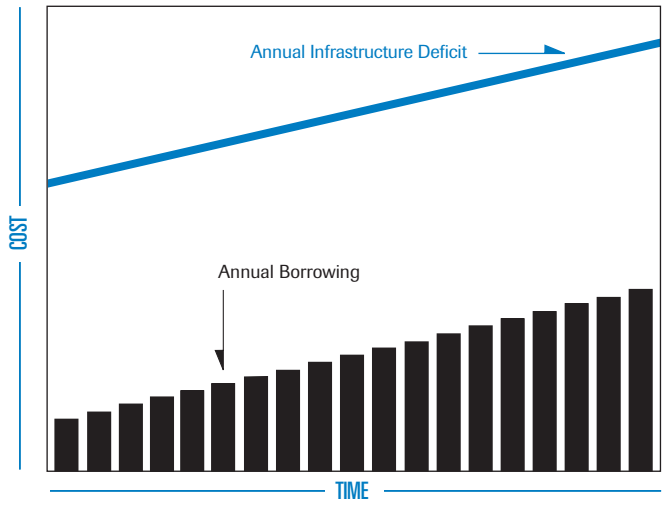


CHART 2: An Only Slighter Better Approach to Debt Financing

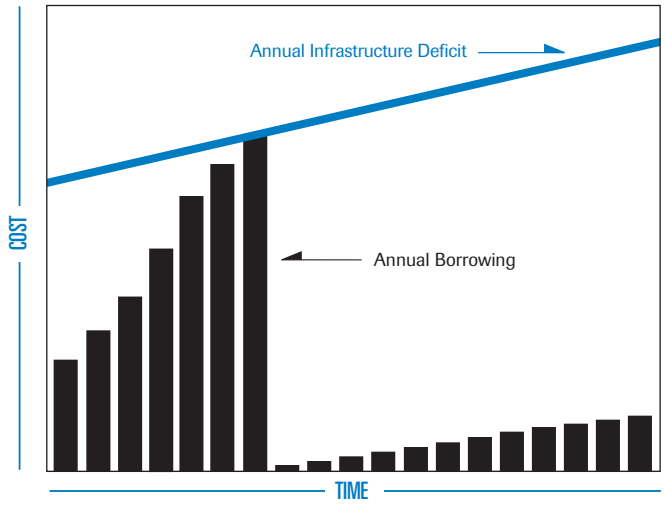
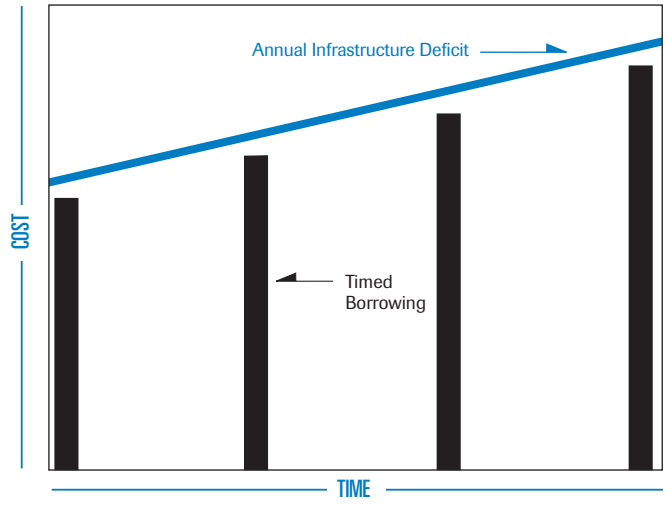


CHART 4: The Smartest Approach to Debt Financing?



DISCUSSION: A Brief Note on Borrowing

From the 1950s to the early 1980s, borrowing was arguably the single largest source of financing for major infrastructure investments. Borrowing, however, has fallen on hard times. In the wake of the fiscal belt-tightening of the 1990s, borrowing on the public credit has become almost universally despised. The conventional wisdom of the 1990s asserted that all government expenditure, including capital, should be met out of current revenues with no net borrowing. But that wisdom is excessively conservative. Expanding corporations with a strong balance sheet borrow. Indeed, it is sound business practice to finance productive assets with debt. The same applies to local governments. Having no debt is not the litmus test for fiscal responsibility. Fiscal responsibility involves balancing the operating budget over the business cycle and maintaining or increasing financial net worth across the long-term. None of this is an argument against borrowing for capital. A completely debt-free city should never be the ultimate goal of fiscal policy, regardless of how well it plays politically. This is especially the case if the trade-off is an underfunded stock of capital assets. The pay-as-you-go approach is arguably better for a city fiscally, but it does not always contribute to the overall health of a city, which certainly encompasses more than the balance sheet. To be sure, local governments must avoid becoming overly indebted. Debt levels must be sustainable and tolerated within the operating budget.

One of the advantages of borrowing is its ability to promote intergenerational equity in the financing of infrastructure. Unlike pay-as-you-go, debt allows the cost of infrastructure to be shared between the generation doing the building today and future generations who also stand to benefit in the future. A popular criticism against borrowing is the interest cost incurred and how that increases the final costs of infrastructure. This ignores three facts. First, debt-financing infrastructure today avoids having to pay for inflation that will increase the cost of that infrastructure tomorrow. Inflation alone can double or even triple the costs of infrastructure over a 20 year wait time. Second, debt is largely repaid with dollars that are worth less than when the debt was incurred. So while interest will cause the total nominal cost in the end to increase, the cost in real inflation-adjusted dollars is much lower. Third, as time passes, any debt incurred, and the interest that accompanies it, becomes less onerous as the local population grows, the economy and local tax base expand, budgets increase, and incomes rise. Funding the first few years of a large long-term bond may be tough, but the pressure inevitably eases with time.

SOURCE: Conceptual options developed by Canada West Foundation.

■ *Revenue Potential:* Calculating the potential revenue available under a "smart debt" program for the City of Edmonton depends on a number of factors including interest rates, amortization periods, and the anticipated future growth in tax revenues. The largest single factor, however, is the cost of servicing that debt relative to tax and/or total operating revenue. Historical data can be used to establish some boundaries.

In 1990, Edmonton's cost of servicing tax-supported debt (interest and principal) was 31.9% of tax revenue. If that situation existed in 2007, the City would have been carrying an additional $2.459 billion in tax-supported debt. Across the 1990-2007 period, the cost of debt-servicing tax-supported debt averaged 14.6%. If that scenario existed in 2007, the City would have been carrying an additional $823.6 million.

Another way to examine the potential is to ignore the tax-supported and self-supported debt distinction and examine all types of debt used for general (as opposed to utility) purposes. In 1990, the costs of servicing general purpose debt was 12.3% of total operating revenue, and across the 1990-2007 period the average was 5.7%. Under the 12.3% scenario, the City would have been carrying an additional $2.650 billion in general purpose debt. Under the 5.7% scenario, the City would have been carrying an additional $929.3 million. Looking across the 2008-2017 period, the 12.3% scenario would lead to an additional $5.116 billion in debt, while the 5.7% would lead to an additional $1.794 in debt.

The budget of the City of Edmonton is very capital intensive. Unlike federal and provincial governments, Edmonton has very little flexibility to fund its capital needs by simply timing infrastructure projects. From time to time, the City must borrow. This borrowing, however, is much different than the borrowing of past provincial and federal governments, all of which were running structural operating deficits. It is the difference between "smart" debt – a home mortgage – and "stupid" debt – the ongoing balance on a credit card.

OPTION #1:
A "Standing" or "Go-Forward" Tax Policy

■ *The Option:* Ensuring that the property tax provides an adequate stream of revenue often requires a deliberate increase. This is always politically difficult given the high visibility of the tax. One idea that might help is to employ a variant of US-style tax and expenditure limits (TELs). TELs prescribe the amount by which property tax revenues in many US states can grow year over year. As such, they are designed to cap property tax revenue growth. But TELs can also be used in the opposite direction to form the basis of a new guiding principle – an explicit "standing" or "go-forward" tax policy that ensures property tax revenues do a better job of keeping pace with disposable incomes or some other measure of economic growth such as municipal GDP. For example, such a standing tax policy might see residential and non-residential municipal property taxes collected at a pre-determined percentage of personal disposable incomes earned in the city on an ongoing basis. The calculation can be done annually or smoothed out over a "five year rolling average."

The reasons for such a policy are more than clear. In 1961, the total amount of tax paid to all governments in Canada was $3,908 per capita (adjusted for inflation). By 2007, the tax bill had risen to $15,778 per capita *(Chart 1, Figure 17, page 45).* In short, taxes paid to all orders of government in Canada have increased by a factor of four since 1960.

However, it is generally conceded that property tax revenues across the Canadian municipal sector have not kept pace with inflation and population growth, or personal disposable incomes. This is certainly the case for the City of Edmonton. In 1960, real per capita property taxes paid to the City of Edmonton were $388 *(Chart 2, Figure 17, page 45).* The amount rose to $875 in 1986. But for the last two decades, the real per capita property tax bill in Edmonton has generally declined. In 2007, real per capita property taxes paid to the City of Edmonton were $838 per capita. More important, property taxes in the City of Edmonton have not kept pace with growth in personal disposable incomes. In 1960, total property taxes paid to the City of Edmonton were 3.71% of all personal disposable incomes earned in the city. By 2007, the ratio had fallen to about 2.88% *(Chart 3, Figure 17, page 45).*

The fact of the matter is that property taxes in Edmonton are currently at some of their lowest levels ever with the sole exception being the 1970s. The blame for a rising tax bill cannot be placed at city hall. Rather, the finger should be pointed at successive federal and provincial governments.

Because Edmonton's property taxes have been falling as a percentage of aggregate personal disposable incomes, and they have also failed to keep pace with population growth and inflation, the result has been millions of dollars in "lost" revenue. This will have to change if property taxes are to help work against the infrastructure funding "gap."

FIGURE 17: Various Tax Measures, 1960-2007

CHART 1: Real Per Capita Federal, Provincial, and Local Taxes

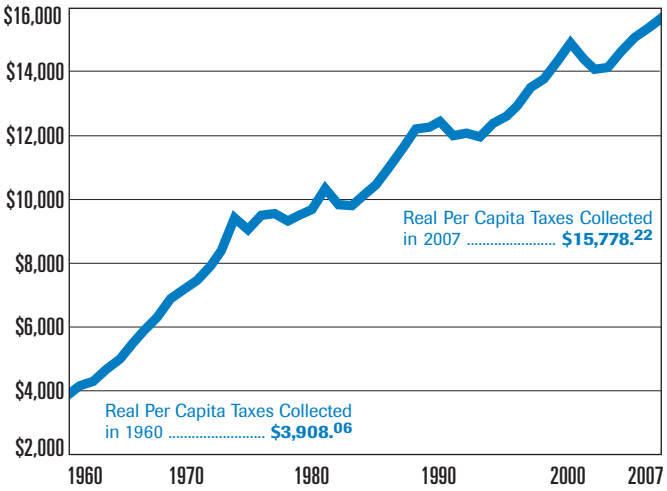


CHART 2: Real Per Capita Property Taxes Collected by Edmonton

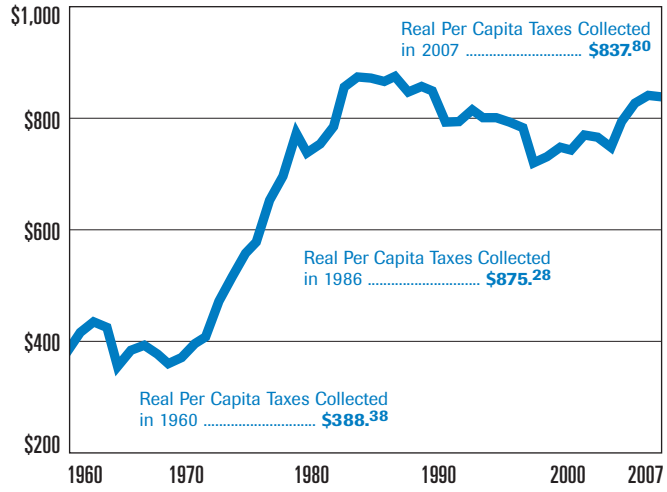
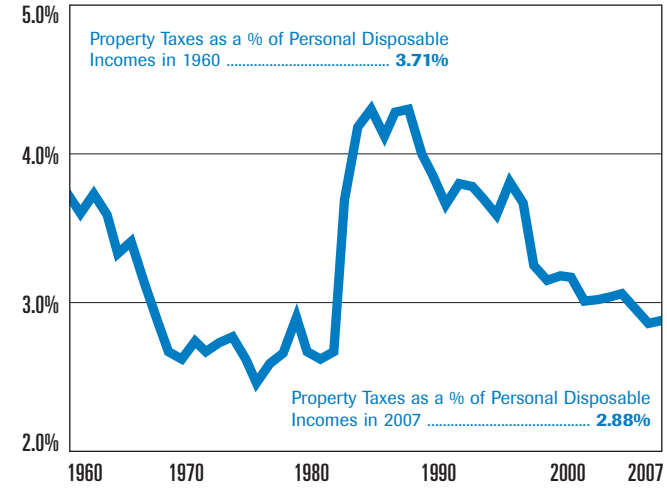


CHART 3: Edmonton Taxes as a % of Personal Disposable Income



SOURCE: Derived by Canada West Foundation from Annual Financial Reports of the City of Edmonton (1960-2007) and Statistics Canada.

■ *Advantages:* A standing or "go-forward" tax policy tackles head-on the erroneous yet widely held perception by both the public and the media that property taxes are always "increasing" and are "out of control." Such a policy guarantees that property taxes will *never* grow faster than the personal disposable incomes out of which the tax must be paid unless a deliberate decision is made to adjust the broader policy itself. If property taxes are set at a predetermined percentage of personal disposable incomes there can be no "effective" tax increase relative to incomes unless the policy is modified. The fact is, many so-called property tax "increases" were never increases at all relative to personal disposable income. Certainly this has been the case in Edmonton over most of the past 20 years.

A standing tax policy would also remove much of the political wrangling over the so-called annual property tax "increases" at budget time. A standing tax policy would limit these debates and allow Edmonton City Council to better focus its decision-making on where and how to employ the tax revenue at its disposal. This is quite different than the current process where municipal decision-makers are continually gauging how much tax revenue they think they can get away with politically. A standing tax policy would be more reflective of the budget dynamic in play for federal and provincial governments. At budget time, these governments are essentially confronted with one decision – how to live within their fiscal means. In our cities too much time is spent first deciding what those fiscal means should be. In other words, how much property tax should be collected? The "right" answer to that question lies in the happenings within the broader economy – especially incomes. Under a standing tax policy, the level of property tax becomes more "economically-determined" and less "politically-driven."

■ *Disadvantages:* Such a structured approach to property taxation could present negative implications for taxpayers with low or fixed incomes. Relating the total amount of property tax collected to total disposable income in a city provides only an average measure of the property tax burden. The fact is, constantly rising property taxes will hurt lower income and fixed income families. But again, the idea should not be summarily dismissed. The property tax is generally neutral with respect to middle and upper-middle income earners, and it can be quite progressive at high rates of income. As such, a system of property tax rebates and other measures can be created to address the impact of rising property taxes on those with low or fixed incomes. Any standing tax policy can easily fall back on a wide variety of tools to mitigate unwanted social and economic

consequences. One type of "off-set" might see escalating municipal taxes against those on fixed incomes accruing in arrears and treated as a "receivable against the estate" when ownership is transferred.

■ *Revenue Potential:* The potential revenue yield of a standing tax policy and its potential impact on the infrastructure funding shortfall is directly related to the portion of personal disposable income that the City of Edmonton believes it must collect over the long-term, and the anticipated growth in personal disposable incomes over the 2008-2017 period. A look at some historical data show what might be possible. From 1990-2007, the property taxes collected by the City of Edmonton averaged 3.31% of total personal disposable incomes earned in the city. In 2007, the tax to personal disposable income ratio was 2.88%. If the 3.31% average ratio had been in play for 2007, the City would have realized another $97.7 million that year alone. The addition for 2008 could reach $105.6 million and rise to $211.0 million by 2017. From 2008-2017, the average annual additional revenue (based on past growth rates in disposable incomes) could be $152.9 million. If these amounts were used exclusively to fund debt, $1.535 billion in additional borrowing could be conducted for 2008. Total additional borrowing over 2008-2017 would be $3.068 billion.

At this point, it is important to remember two important qualifiers concerning any standing or "go-forward" property tax policy. First, any additional revenue has to be reduced by the costs of providing property tax rebates or other "off-sets" to mitigate the negative impacts on those with low or fixed incomes. Running these calculations is outside the scope of this particular study, whose purpose is primarily restricted to measuring general orders of magnitude.

The second qualifier is perhaps the most important, and relates to the notion of tax competitiveness. If the City of Edmonton proceeds with a standing or "go-forward" property tax policy and other municipalities in the larger city-region do not follow suit, Edmonton could become a relatively high tax jurisdiction. Thus, an important consideration concerns the regional implications and competitive limits to such a strategy. In fact, this consideration touches on many of the other revenue tools as well (see the discussion on pages 47 and 48).

In order to preserve the City of Edmonton's tax competitiveness, any standing or "go-forward" property tax policy must factor in the taxes being levied by other municipalities in the city-region as well as other large cities in western Canada (e.g., Vancouver, Victoria, Abbotsford, Kelowna, Calgary, Saskatoon, Regina, Winnipeg). The City of Edmonton's total tax collections should not be completely out of sync with the average property taxes being levied across the larger city-region nor with the amounts levied by its competitor cities across the West.

Since the late 1990s, the City of Edmonton has pulled together some very helpful data on taxation and user charges levied in Edmonton, the greater Edmonton city-region, and cities right across Alberta and Canada. These data should feed into a standing tax policy to ensure that the taxes being collected do not place the City of Edmonton at a competitive disadvantage relative to other cities. The good news for the City of Edmonton is that relative to most other big cities in the West, and relative to other municipalities in the larger metro area, its residential and business property taxes collections tend to be very competitive. As a result, the City of Edmonton has at least some room to devise a standing tax policy and move ahead on the property tax front without seriously jeopardizing the tax competitiveness it now enjoys.

The *2005 Edmonton Property Tax and Utility Survey* can be used to crack the window on the competitive limits. In 2005, residential municipal property taxes in the Capital Region (excluding the City of Edmonton) were $487 per capita. The City of Edmonton's residential property tax collections were $376. In 2005 at least, without exceeding the average, Edmonton could have increased its residential property tax collections by $110 per capita, or $79.1 million. Furthermore, the average municipal residential property tax of an average home in Edmonton was $1,093 in 2005, but the average for the other six large western cities was $1,361. Without exceeding the average of the other six big cities in the West, Edmonton could raise residential property tax collections by 25%. This would have yielded another $145.8 million in 2005.

At the end of the day, a standing or "go-forward" tax policy accomplishes three important goals aside from the matter of additional revenue. First, it encourages elected decision-makers, taxpayers, city administration, and the media to re-examine their perspective on property taxes. If a government does not take a higher percentage of income from one year to the next, then there has been no *effective* tax increase regardless of what is happening to assessed property values or mill rates. The fact of the matter is that property taxes are paid out of disposable income, and if the taxes owing are not rising relative to disposable income, there has been no tax increase. Rather, the increased tax revenue is offset by an expanding economy.

THE REGIONAL CONTEXT

1. The Edmonton City-Region

The City of Edmonton does not exist in isolation. Rather, it serves as the urban "anchor" or "core" of a larger and more complex geopolitical entity — the city-region — which embraces not only Edmonton but other urban and rural municipalities as well. While the individual municipalities in a city-region are legally separate and politically diverse, they are tied together by proximity and common financial, economic, environmental, and social realities.

When exploring issues of municipal finance, the regional context cannot be ignored. This is particularly important when considering Edmonton — one of Canada's most fragmented city-regions. According to Statistics Canada CMA data for 2006, approximately 30% of the Edmonton metropolitan area does not reside in Edmonton proper, and the city-region itself is comprised three dozen separate municipalities (22 municipalities with populations over 1,000 and 14 with populations under 1,000). Edmonton's unique regional context fuels several concerns with respect to taxation issues, each of which needs to be considered.

2. Taxation and the Edmonton City-Region

When considering issues of municipal taxation in the City of Edmonton, the first thing to note is that the strength and value of the residential and non-residential property tax base are not spread uniformly across the various municipalities comprising the Edmonton city-region. For example, cities like St. Albert have a much more valuable residential property tax base than Edmonton, and other municipalities like Fort Saskatchewan and Leduc, Strathcona, and Sturgeon counties have a much more valuable non-residential (e.g., commercial and industrial) property tax base. There is a reason why business property taxation in Fort Saskatchewan constitutes almost 60% of the total property taxes collected in that city compared to only 45% in Edmonton, and while the former collects $723 per capita in non-residential property taxes annually compared to $388 per capita for the City of Edmonton *(see the 2005 Edmonton Property Tax and Utility Survey)*.

Any upward movement of taxation in the City of Edmonton (e.g., new "earmarked" property taxes or a "go-forward" property tax policy) may encourage residential and business property owners to seek out other areas in the city-region with a lower tax burden, thereby lowering the assessed value of the local residential, commercial, and industrial property tax base. In short, property tax policy that is oblivious to the regional context could magnify the effects of existing disparities in the current tax base and lead to even greater fiscal distortions. Municipalities in a city-region with properties that carry higher assessed values relative to other municipalities will find it easier to generate additional property tax revenue, and do so with fewer complications.

Second, while all taxes produce economic distortions, some taxes carry the potential for more distortions than others. In the municipal context, locally levied sales taxes (e.g., visitor-specific selective sales taxes, vehicle-specific sales taxes, a general and broad-based special local option sales tax) can be quite problematic if they are not applied and administered with care. For example, if one jurisdiction in a city-region implemented a local general retail sales tax while other jurisdictions did not, consumers may begin making purchases outside the taxing jurisdiction. This, of course, eventually leads businesses to relocate out of the taxing jurisdiction as well. Such outcomes are counter-productive — the local tax base erodes and current disparities are widened even further.

Third, a good part of the infrastructure and services produced by the City of Edmonton are regional in nature in that they serve the population of the larger city-region. At the same time, a good portion of the costs land with the City of Edmonton only, or are shared with just a few of the city-region's other municipalities. Highly integrated transportation infrastructure such as transit and roadway networks are good examples. In such cases, the policy response cannot simply lie in increasing the taxation for residents in the City of Edmonton in order to meet the infrastructure required to service the larger city-region. Such an approach violates principles of fairness and equity. Rather, the solution lies in an equitable sharing of the costs — to the extent they can be determined or negotiated — along with the implementation of taxation alternatives that yield revenue from across the city-region.

3. Widening the Perspective on Taxation in the Regional Context

To be sure, answers do exist to the regional complications discussed above. But first, it is helpful to gain a little more perspective. First, it should always be remembered that the issue of economic competitiveness cannot be determined by simply focusing attention on the municipality with the lowest overall tax burden. This places too much emphasis on taxation, which is only one aspect of economic competitiveness more generally speaking. While taxes are no doubt important, they are only one piece of the competitiveness "pie." Other factors include everything from numerous and varied job opportunities to ease of access and availability of education, as well as the age and educational profile of the labour force. Economic strength does not singularly correlate to levels of taxation. In the US, for example, the state of Connecticut enjoys the highest per capita personal income in the country ($49,852 US per capita in 2006), California ranked 8th in the nation ($38,956), and Mississippi ranked 49th ($26,535). But interestingly, the state of Mississippi also had one of the lowest overall tax burdens in the US (3rd lowest combined federal and state tax burden) while California had the 8th highest combined tax burden and Connecticut the highest. Clearly, there is more in play here than simply the question of who has the "lowest" taxes. *(For more information, see the US Department of Commerce, Bureau of Economic Analysis and the US-based Tax Foundation.)*

Second, the taxes paid in any jurisdiction (whether municipal, provincial, or national) cannot be viewed in isolation from the various public goods and services that they fund. Taxes are not being paid without goods and services being provided in return. Again, the question is not which city, province, or country pays the highest taxes, but whether the citizens being taxed value the goods and services they receive relative to the amount of taxes they pay. If citizens favour the exchange and the taxes provide essential productive public goods and services, then the end result of a higher tax burden can very well be an increase in economic competitiveness. In today's political environment, this larger equation has generally been ignored, and the focus simply lands on who has the lowest taxes as if this alone makes life in the lower taxing jurisdiction better than life in the higher taxing jurisdiction. All of this is quite simplistic to say the least.

Third, it is important to stress again that municipal property taxes represent a very small portion of the total tax bill facing the average taxpayer (Vander Ploeg 2004). Because municipal property taxes are such a small portion of the taxes paid provincially and federally, it is sometimes easy to overstate their broader impact. In 2007, estimates of average total family income in Edmonton show incomes rising by 8.3% over 2006 levels. This rise resulted in a higher tax bill of $948 for a two parent family with one income earner and two dependent children. This amount is eight times the amount of additional property taxes ($117) that had to be paid as a result of the City of Edmonton's 2007 property tax increase, the great majority of which was offset by the the increased disposable personal income *(see Figure 10 on page 19)*.

4. Structuring New Tax Tools in the Edmonton City-Region

The threat of increased fiscal disparities in the Edmonton city-region and intolerable distortions such as shifting consumption patterns and business location decisions places a premium on the proper structuring and administration of any change in municipal tax policy. For example, the rate of any local retail sales tax should be legislatively capped to prevent destructive tax competition. Another approach (favoured by some US localities) is to exempt particularly large and expensive items to reduce the possibility of distortions. While both of these approaches are helpful, they may not be sufficient. Better options include applying a harmonized local retail sales tax across the city-region or even right across the province. The tax revenue would then be remitted by the province to municipalities based on point of sale considerations or some formula that includes revenue-sharing provisions to help municipalities with a smaller retail sales tax base or that carry a disproportionate share of the costs of regional infrastructure and services.

Like most broad-based taxes, a general retail sales tax is not a user tax. As such, it does not have a strong relationship to most forms of infrastructure. But it is generally conceded that general retail sales taxes are quite appropriate as a funding source for infrastructure that serves a larger regional commercial and employment area. As such, the pooling of revenue offers a good opportunity for constructing regional infrastructure. The same applies to property taxes. It is not at all inconceivable for some property tax revenues in a city-region to be pooled as a means to compensate for disparities in the assessed value of property and to more equitably provide regional infrastructure and services. Such considerations are vitally important for the fiscal health of all municipal partners in a city-region. Whenever disparities in either costs or revenue raising ability are present, a system of subsidization comes into play. Subsidization works against the efficient provision of infrastructure and services, and can also raise the total costs of providing such services.

Second, a standing tax policy encourages the City of Edmonton to pursue a more reasonable level of property taxation – a level that is neither too low nor too high relative to taxes paid in other large western cities and taxes paid in the larger Edmonton city-region. In other words, a standing tax policy helps prevent the City from pursuing a path of destructive tax competition even if that competition is self-imposed.

Third, a standing tax policy can also take off in some other interesting directions. In the US for example, many cities impose a variant of a sales tax called a "gross receipts tax." This tax is payable on the gross revenues earned by industrial and commercial business. While such taxes are far from ideal – a tax on business profits or a sales tax that can be passed on to consumers is more fair – the idea does represent an interesting middle ground. Is it possible for the City of Edmonton to structure its business licensing by tying the amount of the license to gross sales? If property taxation can be made to mimic personal and corporate income taxation through a standing or "go-forward" tax policy, perhaps a business license can be made to mimic a gross receipts tax. There may be more opportunity here than first meets the eye – municipal tax reform via the "back door."

SUMMARY: The limited financing and funding tools at the disposal of the City of Edmonton makes it virtually impossible to close the infrastructure funding "gap." At the same time, there is a list of options that the City can pursue. First, the City can commit to a "user pay first" policy. Second, the City can pursue the debt-financing of more infrastructure by following the principles of "smart debt." Third, this increase in debt-financing could be funded by increased revenues generated through a "standing" or "go-forward" property tax policy. This policy would see property tax revenues tracking alongside increases in aggregate personal disposable incomes earned in the City of Edmonton. This links to the fourth option, which is to earmark a portion of property tax revenue growth for investment in capital or specific infrastructure projects. To be sure, each of these ideas will elicit strong reactions – both positive and negative. This also holds for a range of other options (see page 50). The Canada West Foundation understands that it is unreasonable to expect unqualified support for every idea, but stresses that every time an option is removed from the policy menu, the range of choices is narrowed. If all the options are deemed unworkable, the only path left is for Edmonton to "muddle" its way through the infrastructure challenge under the status quo. And that may well be the worst of all options.

STRATEGIC CONSIDERATIONS

Securing a more diverse revenue system for the City of Edmonton essentially amounts to the creation of a new financial partnership between the province and municipalities. As such, Edmonton's pursuit of a more diverse revenue system cannot be viewed or advanced in isolation. The entire issue exists within a much larger context that includes the City of Calgary, municipalities within the Edmonton city-region, and other medium-sized cities and towns right across the province.

The creation of a new financial partnership will involve significant – if not dramatic – policy shifts that will affect both the province, the City of Edmonton, and other municipalities across Alberta. As such, none of this will be easy or achievable within the immediate future. Fundamental reform of municipal taxation authority will be particularly difficult. As such, a long-term, strategic, and sustained effort must be put forth. What is more, this effort will have to span more than a few municipal election cycles. The rationale and commitment for fundamental change will have to take root and reach deeply into the political culture of Edmonton and the province as a whole, emerging as an enduring and fundamental political theme. Flowing out of this must be the continual development of practical proposals for change and ongoing discussion and debate. The desire for a new financial partnership will have to take on a status similar to that of Senate reform – a theme that continually resonates for a very large group of Albertans. What is more, the City of Edmonton will have to lead this charge. No one else will be at the front of this parade.

The City of Edmonton is well positioned to take the lead. Edmonton has been at the forefront of managing the urban infrastructure challenge through its own Office of Infrastructure and Funding Strategy. The City also served as host and primary sponsor of a high-profile national conference on urban sustainability held in September 2003. Past City Councils have also worked through many of the issues under initiatives such as the "Four Pillars of Sustainability" workshops held in the Spring of 2004.

To secure the necessary reforms, at least two groups of actors will need to form a powerful coalition. First, political leadership on the issue will have to form. To be effective, this leadership will have to centre around the cities of Edmonton and Calgary, and also include other municipalities that will stand to benefit from a new provincial-municipal financial partnership. This political leadership will have

EPCOR: Unlocking Financial Assets

In 1994, the City of Edmonton sold Edmonton Telephones and used the proceeds to establish the Ed Tel Endowment Fund. This was a highly successful privatization. From 1995-2007, the Fund has generated an average of $50.0 million annually in interest income for the City. This amount is substantially larger than the average annual surpluses posted by the utility prior to its privatization. The 2007 market value of the Ed Tel Endowment — $698.8 million — was 40% of 2007 operating revenue.

The success of the Ed Tel privatization raises an interesting question. Is there merit in considering a similar option for EPCOR? To be perfectly clear, the purpose here is not to make a recommendation favouring one direction or the other. That is well outside the bounds of this paper. Rather, our purpose is to stimulate some initial thinking about the circumstances under which such a move might be considered.

From a strict financial perspective, the most important advantage of privatization is how it can unleash large sums of financial capital locked up in various government-owned assets and operations. As the sole shareholder in EPCOR, the City receives an annual dividend out of the net income earned by the corporation. This dividend is deposited into the general operating fund of the City, and is used to fund various municipal expenditures. Because part of the net income is also retained in the corporation, the City's equity investment in EPCOR also increases over time. If privatization were to occur, the sale would produce a one-time revenue windfall. Depending on the amount of shareholder equity in the operation — as well as other considerations — the windfall could be substantial. Such was the case with Edmonton Telephones. If the proceeds of the sale are invested, the City would essentially trade its annual flow of dividend income and the potential increases in shareholder equity for an annual stream of income produced by a financial investment.

With this general pattern in mind, under what circumstances might the privatization of EPCOR be considered a viable option? While the answer is not entirely clear, there is a set of minimum financial conditions that must be met. First, any privatization would have to result in a sufficiently large enough sum, that when invested in a reasonable and prudent fashion, would produce a level of annual income exceeding the current dividends earned by the City as well as the annual net increase in shareholder equity. The difference must be positive not only in the short-term, but across the long-term as well. If this condition cannot be met, privatization will actually involve a loss of annual revenue, and the City should retain ownership.

Second, the difference between the anticipated investment income and the funds currently earned and received by owning EPCOR has to be sufficiently large as well. If the anticipated net increase is too small, the rewards of privatization do not justify the risks. Privatization is a highly detailed, complex, and risky venture. The stakes are high and mistakes are expensive. Feasibility studies must be conducted and independent legal, financial, and technical expertise consulted to assess the operation, build the business case, design the process, market the opportunity, and build the criteria to assess proposals, ensure due diligence, negotiate a deal, and assist with the transition. To succeed, privatizations have to be well prepared and rolled out. The concerns of employees have to be addressed, and the public interest must be served and protected.

Assuming that these conditions can be met, privatization could well result in an increase in annual revenue for the City of Edmonton. At that point, both the City and the citizens of Edmonton need to grapple with a fundamental question. Is retaining public ownership of EPCOR worth foregoing the potential increase in municipal revenue that would occur under a privatization? In other words, how much is the City of Edmonton willing to spend on an annual basis to keep ownership of EPCOR in public hands, and is this price a reasonable price to pay? To be sure, this is very much a subjective question and other considerations must be factored in as well. But at the end of the day, this is the primary question that needs to be answered.

In searching for the answer, both the City and the citizens of Edmonton must not allow ideological, sentimental, and emotional factors to direct the search. Sound public policy here assess the costs of public ownership in light of the benefits. A focus on essential priorities is also important. Clearly, a key priority for the City of Edmonton today is infrastructure. How well does the cost of public ownership of an electrical and water corporation fit with the other pressing needs of the City of Edmonton if divestiture would provide an increase in long-term infrastructure funding? Would selling EPCOR to create a large pool of own-source capital funding make more sense? At the end of the policy work day, fiscal prudence demands policies that reinforce one another, not policies that take off in different directions.

Working through the issues here is not easy, but the City of Edmonton does have some of the necessary background and experience. In *New Tools for New Times* the Foundation identified other privatization options that cities around the world have pursued. This list includes such things as wastewater systems and even streetlighting.

to spearhead a diverse and ongoing public education initiative coupled with a sustained and organized political communications effort. Second, the political leadership will have to be backstopped by a coalition at the grassroots. Members of this coalition have to be identified and the coalition itself actively nurtured. Potential interests that would benefit from fundamental municipal tax reform include industry, commercial and retail businesses, various business groups and taxpayer associations, the environmental lobby, and those with fixed, low, or medium incomes.

Finally, any new partnership that is ultimately struck will have to be a "win-win-win" scenario – the City of Edmonton, the Government of Alberta, and the majority of voting taxpayers must all benefit from the new arrangement. As such, the City of Edmonton must be prepared to compromise and be willing to forego certain reforms. With this general frame serving as the background, there are three possible approaches to securing a new fiscal framework for the City of Edmonton.

1) Argue for enhanced taxation authority as the way toward better services and infrastructure: This approach has the advantage in that it is easy to frame and understand. The downside is that it implies at least a marginal increase in effective taxation, even though that increase would likely be modest relative to the average taxpayer's total tax bill. The argument can also be advanced that the size of the urban infrastructure challenge warrants additional taxation, and enhanced services and infrastructure will result. Furthermore, the current municipal tax load is significantly lower than a decade or two ago, and so a modest increase would only amount to a return to more historical levels of municipal taxation. While it is difficult to imagine this argument carrying the day, there are other approaches that might be employed. For example, the idea of a SPLOST tax or "penny tax" can be advanced as the way to increase funding for infrastructure but only within a tightly controlled environment that actually enhances democratic participation. From a provincial and taxpayer perspective, such a tax is less threatening and stands a greater chance of moving forward since it requires voter approval.

2) Argue that the province should transfer tax room to the cities, avoiding an increase in overall taxation: The tax structure in place for the City of Edmonton constitutes a competitive disadvantage, but the prospect of a higher effective tax burden could kill any attempt for a new financial partnership with the province. As a result, some urban policy and finance analysts argue for a shifting of taxes between governments. Some of this has already occurred with the province sharing a portion of its fuel tax revenue with the cities of Edmonton and Calgary, and the recent agreement to share the federal fuel tax as well. While this strategy avoids the thorny problem of a tax increase, additional movement here is probably quite limited. The federal government is under continual pressure to increase provincial transfers for health care and education, and the province of Alberta's budget remains highly dependent on volatile oil and gas revenues. While the province is registering large budget surpluses today, they could easily evaporate tomorrow. In short, the competition for scarce tax dollars is fierce, and this limits the potential of any potential shift in tax room between governments as well as any significant expansion in tax revenue-sharing.

3) The City of Edmonton can sidestep objections over a tax increase and pressuring the provincial budget by sacrificing a small amount of revenue now as an investment toward better tax tools in the future: If the City of Edmonton would commit to a significant one-time reduction in the property taxes it collects, this could then stimulate the start of negotiations with the province to secure agreement for new taxing authority, whether that be a small local general sales tax, a range of "vehicle-specific" selective sales taxes or expanded tax revenue-sharing based on some combination of personal and corporate income tax revenues. To ensure a "win-win-win" for taxpayers, the province, and the City, the revenue produced by the new tax tools would not have to make up the entire difference in lost revenue. The short-term revenue loss to the City's operating budget could be covered by reducing the amount of "pay-as-you-go" dollars transferred to capital. Because the City of Edmonton has relatively low amounts of tax-supported debt, some modest borrowing over the short-term could support infrastructure until the revenue generated by the new taxes closes the gap over the longer-term. With this strategy, the City of Edmonton would be offering a short-term tax cut.

SUMMARY: At the end of the day, any proposal for tax reform must be wrapped within a larger strategy that can get sufficient traction on the ground. Cutting property taxes and filling the void with different tax tools may offer the best way forward. The City of Edmonton would make an investment in lost revenue now to secure a more diverse set of tax tools with much better revenue-generating capacity in the future. Such a scenario ultimately results in a "win-win-win" for everybody. Although the approach does not address the short-term and immediate infrastructure needs of the City, it does offer the best prospect for moving forward. In the end, no policy choice is ever free – all come without at least some cost.

A HISTORY OF INNOVATION

Among large Canadian cities, the City of Edmonton has always demonstrated a relatively strong capacity for innovation, and the current search for alternative ways to finance, fund, and deliver infrastructure certainly builds on these past efforts. While many of the ideas presented here can be considered somewhat ground-breaking, the City of Edmonton has been able to do some of its own ground-breaking as well.

1) The sale of Edmonton Telephones and the subsequent creation of the Ed Tel Endowment Fund: In 1994, the City of Edmonton privatized one of its premiere utility operations, using the sale of the physical assets to create a long-term financial endowment. The privatization has resulted in significant ongoing benefits for the City. First, the sale allowed the City to eliminate its risk with respect to deregulation of the telecommunications industry and rapid technological change occurring across the industry. The sale netted $470.2 million, which was invested. In 2007, the Fund had a market value of $698.8 million representing 40% of total operating revenue. The average annual earnings of the Ed Tel Endowment five years after inception were $52.0 million. This is quite higher than the $31.3 million in average annual surpluses generated by Edmonton Telephones in the preceding five years. The current value of this additional revenue is roughly equivalent to a 3% property tax increase.

2) The creation of EPCOR: In 1995, the City of Edmonton corporatized its electrical and water utility departments by creating EPCOR. This approach to municipal service delivery is rare in Canada, but it has yielded numerous benefits. The change to a "public interest company" injected a measure of private sector corporate governance, discipline, and incentives into the operation, at the same time that the benefits of public ownership were retained. Corporatization has increased independence of the operation, and allowed for the development of highly focused service delivery and performance goals, as well as increased accountability. A key part of this has been EPCOR's continual expansion of activity across the province and the country. EPCOR's contributions to the City of Edmonton have grown considerably, a portion of which now accrues from the sale of services to residents outside Edmonton, representing a new and growing source of external revenue. In the five years preceding the creation of EPCOR, the average net income

The Minister's Council on Municipal Sustainability

In 2001, the Government of Alberta struck the *Council on Roles, Responsibilities, and Resources for the 21st Century,* a provincial-municipal forum designed to explore the challenges facing Alberta's municipalities. This forum evolved into the *Minister's Council on Municipal Sustainability* in 2005 after it was joined by the mayors of Edmonton and Calgary, and the presidents of the Alberta Urban Municipalities' Association (AUMA) and the Alberta Association of Municipal Districts and Counties (AAMD&C).

In March 2007, the *Minister's Council* issued a report containing recommendations flowing in three directions. First, the report made several suggestions on improving intermunicipal cooperation, particularly as it relates to regional planning, land-use decision-making, growth management, the equitable sharing of costs and revenues associated with growth, and the establishment of more formalized regional service delivery.

Second, the report discussed the evolving roles of the province and its municipalities. Although the report envisioned no major realignment of roles and responsibilities, several areas of shared responsibility await further exploration in 2007, including affordable housing, ground ambulance, policing, and the funding of municipal transportation services.

Third, the report concluded that the province's municipalities need access to a greater range of financial tools to meet both current and future operating and capital requirements. To this end, the Council argued for provincial enabling legislation that would allow municipalities to levy — at their discretion — a wider range of taxes. Possible candidates mentioned include an amusement tax, a tourism tax, a property transfer tax (or real estate transfer tax), a vehicle registration tax, expanded application of development cost charges (DCCs), and the ability to levy variable mill rates (or split rate mill rates) on different types of non-residential properties.

Similar to the Canada West Foundation, the Minister's Council has concluded that municipalities need access to revenue sources that respond better to economic growth if municipalities are to effectively respond to that growth. The options contained in *Delivering the Goods* are perhaps more ambitious, but the two reports still work in the same direction.

Source: *Report to the Minister of Municipal Affairs, presented by the Minister's Council on Municipal Sustainability, March 5, 2007.*

and revenue tax generated by the electrical and water utilities was $140.4 million annually. In the first five years of EPCOR's operations, the average net income, franchise fees, and property taxes generated averaged $161.5 million. This average additional revenue of $21.1 million is roughly equivalent to a 3% property tax increase today. Innovations with the Ed Tel Endowment Fund and EPCOR have ensured a lower property tax burden today for all Edmontonians.

3) The creation of a new "user pay" storm drainage utility emerges as one of the City's most innovative infrastructure efforts: In 2003, the City of Edmonton removed its storm drainage service from the property tax base and converted it to a user pay utility operation. Converting services and infrastructure dependent on the tax base to user pay is at the very heart of innovative infrastructure delivery right around the world. While this model has long been used for water and wastewater services, it is only now being actively extended to solid waste management, storm drainage, and even transportation through the revival of the toll road. The City of Edmonton was one of the first "big" cities in Canada to implement this innovation with respect to storm drainage, which effectively removed a huge infrastructure liability from the tax base and converted future capital funding requirements into a more sustainable and efficient user pay system.

4) A new neighbourhood infrastructure "utility" model: The City of Edmonton has been exploring how several types of infrastructure assets serving local communities can be rehabilitated, with investments in each neighbourhood taking place once every 50 years. While the Foundation does not have all of the details concerning this plan, it most likely entails the earmarking of future property tax revenue for this specific purpose. Earmarking property tax revenues for specific purposes ensures more sustainable funding, increased public accountability, and is more likely to generate public support.

5) Recent modifications to the City's debt policy: In 2003, the City of Edmonton revised its debt policy allowing for an additional $250 million in new tax-supported debt for reinvestment in local infrastructure. Several aspects of "smart debt" were incorporated into the new policy, which represents a step in the right direction given the huge infrastructure needs confronting the City. The City of Edmonton needs to ensure that its borrowing policies are reasonable and balanced into the future as well.

6) Establishment of the Office of Infrastructure and Funding Strategy: In 2000, the City of Edmonton created the Office of Infrastructure and Funding Strategy, which has developed a substantial research base to manage the infrastructure issue and also provided the City of Edmonton with a national and international reputation as a leader in the management of municipal infrastructure. Canada West Foundation research has concluded that a lack of appropriate capital asset management in the public sector is one of the reasons why governments face such huge infrastructure needs. The City of Edmonton is working solidly in a better direction – building an inventory of assets, identifying replacement costs, assessing the condition of its assets, and identifying the type of spending required and when it needs to be made. The challenge now is to drive forward and secure better sources of infrastructure funding.

7) A new process and philosophy to help guide the development of the 2007 municipal budget and future budgets: In the lead up to the development of the 2007 municipal budget, Edmonton City Council agreed to endorse several new principles that will help guide budget deliberations. In this way both City Administration and Council have clarity on the basis for the budget. A particularly important principle sees services to existing citizens and properties being covered by property tax revenues from the existing tax base along with incremental increases to offset the effects of inflation. Property tax revenues from growth in the assessment base will be used to expand services and meet new community needs. Signing off on such principles ensures that growth revenues are not used to subsidize current services – an unsustainable approach over the long run.

SUMMARY: The City of Edmonton should be congratulated on its proactive approach, its past innovations, and its current willingness to tackle the infrastructure issue in a long-term and sustainable fashion as opposed to focusing simply on a "quick-fix" response that fails to get at the root of the problem. Financially, the City has been, and continues to be, well managed. But this alone has not been enough. The infrastructure funding challenge is mammoth, and meeting the challenge will require even more innovation and "out-of-the-box" thinking. This is especially the case when considering alternative ways to finance, fund, and deliver infrastructure. The good news is that the City of Edmonton has a well-established reputation as an innovator in the area of infrastructure and municipal finance. As such, it is well-positioned to lead the political charge toward devising and securing a new municipal tax mix.

CONCLUSION

Four broad conclusions emerge from this in-depth examination of infrastructure financing and funding in the City of Edmonton. First, the infrastructure funding challenge facing the City is both large and growing. In 1998, the City of Edmonton estimated its unfunded infrastructure needs over the 1999-2008 period at $1.750 billion. By 2006, the City's unfunded infrastructure needs over the 2007-2016 period totalled $5.248 billion. In 2008, the reported shortfall has exploded to $19.207 billion. Clearly, this is not a problem going away anytime soon. Furthermore, without remedial action, the size of the problem will only grow.

Second, the City of Edmonton does not have the capacity to address this challenge alone, especially considering the limited financing and funding tools currently at its disposal. Operating and capital revenues for the City of Edmonton are generated by only five sources, and the ability of these sources to provide a growing stream of revenue is limited. From 1990-2007, the average Edmontonian paid $2,873 more in taxes to all levels of government. Of this increase in taxation, 53.1% accrued to the federal government while another 45.3% accrued to the provincial government. Only 1.5% of the increase in taxation — $45 — has gone to the City of Edmonton. Under such a tilted fiscal playing table, the City of Edmonton will not be able to close its infrastructure funding "gap." It is simply unreasonable to expect such a limited set of revenue sources to carry the burden of funding infrastructure in a large modern city like Edmonton.

Third, the infrastructure financing and funding challenge facing Edmonton constitutes a powerful argument for new directions and an expanded set of financing and funding tools. A concerted effort must be put forward to find new approaches that offer a sustainable solution across the long-term. Closing an annual infrastructure funding shortfall that reaches upwards of $2 billion is not only a large assignment for the City of Edmonton, it is a virtual impossibility unless a new financial partnership can be struck with the province that sees the City receiving additional taxation authority or expanded tax revenue sharing. While some additional financial support and increased flexibility in the short-term may help stop the slide, something big has got to give if the challenge is to met in the long-term. This is no time to "tinker." Rather, the focus must be on "big" ideas that offer the potential for "big" change.

Fourth, the City of Edmonton will have to assume a leadership role in working toward a more diverse set of tax tools and revenue levers, and also identify workable options to more equitably share the costs (and benefits) of infrastructure right across the Edmonton city-region. As part of this process, the City will have to continue building its case for change — researching new options, drafting practical proposals, educating the public and the media, and communicating all the advantages that come with a new provincial-municipal fiscal partnership. All of this is very much up to Edmonton itself. No one else will lead this parade.

A new provincial-municipal financial partnership is very much a long-term project. Thus, the City of Edmonton must consider now how it can maximize the limited revenue sources currently at its disposal. This does not constitute a sustainable solution for the long-term. However, to the degree that Edmonton can make forward progress over and above what other cities are able to do, it will secure a competitive advantage by building a better and higher quality urban environment at the same time as it continues working toward a new era that holds more promise. ■

APPENDIX A: Fiscal Dataset (1990–2007)

Budget Item	2007	2006	2005	2004	2003	2002	2001	2000	1999
General Property Tax	$ 530,068	$ 473,783	$ 436,328	$ 403,816	$ 365,580	$ 350,011	$ 330,640	$ 302,347	$ 291,224
Business Property Tax	$ 105,472	$ 97,628	$ 93,410	$ 85,215	$ 79,995	$ 75,336	$ 72,929	$ 69,822	$ 67,171
Local Improvement Levies	$ 9,060	$ 9,856	$ 10,815	$ 11,199	$ 12,388	$ 13,458	$ 18,126	$ 21,447	$ 18,921
Other Taxes	$ 5,508	$ 5,031	$ 4,746	$ 3,839	$ 4,405	$ 3,355	$ 2,813	$ 2,705	$ 2,671
Total Tax Revenue	**$ 650,108**	**$ 586,298**	**$ 545,299**	**$ 504,069**	**$ 462,368**	**$ 442,160**	**$ 424,508**	**$ 396,321**	**$ 379,987**
Provincial Grants	$ 49,962	$ 52,116	$ 49,942	$ 36,025	$ 28,613	$ 26,150	$ 23,788	$ 44,898	$ 25,116
Federal Grants	$ 8,988	$ 2,103	$ 5,074	$ 2,173	$ 1,470	$ 989	$ 1,046	$ 1,094	$ 1,306
Total Operating Grants	**$ 58,950**	**$ 54,219**	**$ 55,016**	**$ 38,198**	**$ 30,083**	**$ 27,139**	**$ 24,834**	**$ 45,992**	**$ 26,422**
Revenue-in-Lieu	$ 23,888	$ 22,411	$ 22,381	$ 20,628	$ 21,411	$ 20,833	$ 21,879	$ 23,110	$ 22,249
Franchise Fees & Taxes	$ 29,480	$ 28,311	$ 27,419	$ 23,631	$ 15,341	$ 13,794	$ 14,616	$ 23,486	$ 22,973
Total Contributions	**$ 53,368**	**$ 50,722**	**$ 49,800**	**$ 44,259**	**$ 36,752**	**$ 34,627**	**$ 36,495**	**$ 46,596**	**$ 45,222**
Sales of Service User Fees	$ 466,798	$ 391,188	$ 370,854	$ 332,625	$ 320,373	$ 313,601	$ 289,419	$ 270,281	$ 250,927
Regulatory User Fees	$ 44,517	$ 36,379	$ 30,875	$ 28,675	$ 25,554	$ 24,412	$ 17,385	$ 14,414	$ 12,060
Total User Fees	**$ 511,315**	**$ 427,567**	**$ 401,729**	**$ 361,300**	**$ 345,927**	**$ 338,013**	**$ 306,804**	**$ 284,695**	**$ 262,987**
Investment Income	$ 116,658	$ 103,546	$ 145,403	$ 64,471	$ 52,111	$ 50,109	$ 75,881	$ 112,573	$ 68,617
Fines & Penalties	$ 39,675	$ 36,951	$ 34,922	$ 34,318	$ 30,674	$ 31,288	$ 31,807	$ 29,656	$ 27,508
EPCOR Contributions	$ 361,946	$ 658,522	$ 231,734	$ 248,886	$ 456,577	$ 229,865	$ 421,554	$ 188,254	$ 154,944
All Other Income	$ 698	$ 490	$ 102	$ 519	$ 421	$ 663	$ 405	$ 170	$ 769
Total Other Revenue	**$ 518,977**	**$ 799,509**	**$ 412,161**	**$ 348,194**	**$ 539,783**	**$ 311,925**	**$ 529,647**	**$ 330,653**	**$ 251,838**
Provincial Capital Grants	$ 311,387	$ 126,005	$ 99,409	$ 101,192	$ 89,172	$ 75,610	$ 84,407	$ 86,080	$ 33,695
Federal Capital Grants	$ 35,245	$ 12,847	$ 23,254	$ 10,443	$ 11,802	$ 2,496	$ 71	$ 377	$ 142
Developers & Other	$ 99,034	$ 115,764	$ 83,742	$ 91,340	$ 64,051	$ 60,844	$ 72,949	$ 36,020	$ 31,788
Total Capital Revenue	**$ 445,666**	**$ 254,616**	**$ 206,405**	**$ 202,975**	**$ 165,025**	**$ 138,950**	**$ 157,427**	**$ 122,477**	**$ 65,625**
TOTAL REVENUE	**$ 2,238,384**	**$ 2,172,931**	**$ 1,670,410**	**$ 1,498,995**	**$ 1,579,938**	**$ 1,292,814**	**$ 1,479,715**	**$ 1,226,734**	**$ 1,032,081**
Police	$ 228,093	$ 210,317	$ 201,343	$ 185,692	$ 173,629	$ 160,806	$ 149,118	$ 139,559	$ 130,867
Fire and EMS	$ 151,220	$ 132,584	$ 121,714	$ 114,187	$ 109,509	$ 101,777	$ 96,667	$ 91,168	$ 88,577
Total Protection	**$ 379,313**	**$ 342,901**	**$ 323,057**	**$ 299,879**	**$ 283,138**	**$ 262,583**	**$ 245,785**	**$ 230,727**	**$ 219,444**
Roads and Related	$ 126,434	$ 118,701	$ 89,767	$ 86,294	$ 80,000	$ 69,839	$ 65,627	$ 69,732	$ 69,771
Transit	$ 196,249	$ 173,733	$ 165,330	$ 148,169	$ 138,641	$ 128,623	$ 119,670	$ 112,971	$ 110,986
Total Transportation	**$ 322,683**	**$ 292,434**	**$ 255,097**	**$ 234,463**	**$ 218,641**	**$ 198,462**	**$ 185,297**	**$ 182,703**	**$ 180,757**
Parks and Recreation	$ 93,874	$ 85,305	$ 87,132	$ 86,854	$ 84,024	$ 76,025	$ 70,786	$ 70,194	$ 68,496
Social, Culture, Community	$ 152,658	$ 144,412	$ 110,160	$ 89,599	$ 84,156	$ 90,453	$ 79,446	$ 72,226	$ 68,154
Total PRSCC	**$ 246,532**	**$ 229,717**	**$ 197,292**	**$ 176,453**	**$ 168,180**	**$ 166,478**	**$ 150,232**	**$ 142,420**	**$ 136,650**
Sewer, Waste, Storm Drain	$ 144,190	$ 122,910	$ 120,257	$ 111,255	$ 109,372	$ 105,068	$ 91,017	$ 89,298	$ 80,589
Other Utility-Based	$ 29,626	$ 26,336	$ 31,349	$ 17,745	$ 22,496	$ 26,465	$ 23,198	$ 62,677	$ 24,501
Environment & Utility	**$ 173,816**	**$ 149,246**	**$ 151,606**	**$ 129,000**	**$ 131,868**	**$ 131,533**	**$ 114,215**	**$ 151,975**	**$ 105,090**
Total General & Other	**$ 132,474**	**$ 129,555**	**$ 128,518**	**$ 113,909**	**$ 107,014**	**$ 66,722**	**$ 83,341**	**$ 83,764**	**$ 70,314**
Interest on Debt	**$ 37,694**	**$ 34,356**	**$ 40,808**	**$ 33,021**	**$ 33,190**	**$ 36,031**	**$ 37,521**	**$ 38,836**	**$ 38,315**
Capital Expenditure	**$ 870,770**	**$ 515,828**	**$ 428,574**	**$ 385,451**	**$ 325,107**	**$ 272,594**	**$ 415,427**	**$ 239,770**	**$ 193,681**
TOTAL EXPENDITURE	**$ 2,163,282**	**$ 1,694,037**	**$ 1,524,952**	**$ 1,372,176**	**$ 1,267,138**	**$ 1,134,403**	**$ 1,231,818**	**$ 1,070,195**	**$ 944,251**
BUDGET BALANCE	**$ 75,102**	**$ 478,894**	**$ 145,458**	**$ 126,819**	**$ 312,800**	**$ 158,411**	**$ 247,897**	**$ 156,539**	**$ 87,830**
Less: Retained Earnings	$ (185,510)	$ (487,551)	$ (64,483)	$ (85,487)	$ (305,577)	$ (90,001)	$ (292,673)	$ (78,752)	$ (40,272)
EFFECTIVE BALANCE	**$ (110,408)**	**$ (8,657)**	**$ 80,975**	**$ 41,332**	**$ 7,223**	**$ 68,410**	**$ (44,776)**	**$ 77,787**	**$ 47,558**
Net Tax-Supported Debt	$ 329,543	$ 147,501	$ 103,784	$ 59,217	$ 24,058	$ 25,951	$ 41,252	$ 55,315	$ 69,604
Net Self-Supported Debt	$ 429,330	$ 396,534	$ 366,516	$ 358,287	$ 343,190	$ 351,070	$ 370,041	$ 261,001	$ 273,821
Other Net Debt (Contingent)	$ 2,141,882	$ 2,181,279	$ 2,085,371	$ 1,613,113	$ 1,703,485	$ 1,908,374	$ 1,702,824	$ 1,258,789	$ 1,139,860
Total Net Debt	**$ 2,900,755**	**$ 2,725,314**	**$ 2,555,671**	**$ 2,030,617**	**$ 2,070,733**	**$ 2,285,395**	**$ 2,114,117**	**$ 1,575,105**	**$ 1,483,285**
Population	**775,969**	**730,372**	**712,391**	**700,660**	**688,940**	**677,430**	**666,104**	**658,400**	**648,284**
CPI (2007=100)	**100.0**	**95.4**	**92.5**	**90.6**	**89.7**	**85.2**	**82.7**	**81.0**	**78.4**

APPENDIX A: Fiscal Dataset (1990–2007)

Budget Item	1998	1997	1996	1995	1994	1993	1992	1991	1990
General Property Tax	$ 271,266	$ 256,380	$ 272,488	$ 272,558	$ 268,443	$ 265,821	$ 263,518	$ 245,788	$ 225,758
Business Property Tax	$ 62,942	$ 64,083	$ 63,421	$ 63,290	$ 62,148	$ 60,861	$ 60,209	$ 59,914	$ 55,303
Local Improvement Levies	$ 19,460	$ 20,350	$ 21,362	$ 22,451	$ 24,177	$ 24,888	$ 26,272	$ 26,828	$ 27,521
Other Taxes	$ 2,556	$ 1,597	$ 2,998	$ 793	$ 2,407	$ 2,131	$ 1,958	$ 2,514	$ 3,369
Total Tax Revenue	**$ 356,224**	**$ 342,410**	**$ 360,269**	**$ 359,092**	**$ 357,175**	**$ 353,701**	**$ 351,957**	**$ 335,044**	**$ 311,951**
Provincial Grants	$ 25,456	$ 23,640	$ 24,768	$ 33,415	$ 43,615	$ 55,231	$ 60,254	$ 63,940	$ 60,600
Federal Grants	$ 2,834	$ 1,337	$ 4,201	$ 5,048	$ 5,008	$ 4,901	$ 4,668	$ 6,223	$ 4,018
Total Operating Grants	**$ 28,290**	**$ 24,977**	**$ 28,969**	**$ 38,463**	**$ 48,623**	**$ 60,132**	**$ 64,922**	**$ 70,163**	**$ 64,618**
Revenue-in-Lieu	$ 25,584	$ 25,681	$ 27,411	$ 30,712	$ 31,358	$ 33,110	$ 33,320	$ 32,023	$ 34,069
Franchise Fees & Taxes	$ 22,676	$ 24,789	$ 24,918	$ 21,462	$ 22,527	$ 19,669	$ 16,068	$ 16,455	$ 17,192
Total Contributions	**$ 48,260**	**$ 50,470**	**$ 52,329**	**$ 52,174**	**$ 53,885**	**$ 52,779**	**$ 49,388**	**$ 48,478**	**$ 51,261**
Sales of Service User Fees	$ 266,906	$ 242,698	$ 255,369	$ 167,828	$ 165,310	$ 166,182	$ 169,014	$ 164,442	$ 166,644
Regulatory User Fees	$ 11,476	$ 9,965	$ 10,420	$ 10,073	$ 9,972	$ 10,722	$ 10,854	$ 9,445	$ 9,470
Total User Fees	**$ 278,382**	**$ 252,663**	**$ 265,789**	**$ 177,901**	**$ 175,282**	**$ 176,904**	**$ 179,868**	**$ 173,887**	**$ 176,114**
Investment Income	$ 79,439	$ 92,102	$ 77,815	$ 51,703	$ 61,574	$ 53,926	$ 45,287	$ 37,061	$ 33,094
Fines & Penalties	$ 27,496	$ 24,936	$ 24,547	$ 24,182	$ 23,545	$ 19,829	$ 19,848	$ 21,686	$ 19,547
EPCOR Contributions	$ 160,425	$ 154,574	$ 149,468	$ 186,335	$ 163,829	$ 94,159	$ 122,038	$ 135,493	$ 147,421
All Other Income	$ 985	$ 1,256	$ 1,035	$ 3,182	$ 6,977	$ 10,240	$ 8,783	$ 5,619	$ 5,208
Total Other Revenue	**$ 268,345**	**$ 272,868**	**$ 252,865**	**$ 265,402**	**$ 255,925**	**$ 178,154**	**$ 195,956**	**$ 199,859**	**$ 205,270**
Provincial Capital Grants	$ 54,930	$ 39,098	$ 56,231	$ 15,888	$ 36,044	$ 19,603	$ 83,679	$ 44,903	$ 55,794
Federal Capital Grants	$ 3,332	$ 14,217	$ 11,730	$ 13,066	$ 1,323	$ 121	$ 284	$ 161	$ 196
Developers & Other	$ 38,989	$ 27,050	$ 24,015	$ 25,284	$ 38,543	$ 31,905	$ 34,828	$ 26,626	$ 27,460
Total Capital Revenue	**$ 97,251**	**$ 80,365**	**$ 91,976**	**$ 54,238**	**$ 75,910**	**$ 51,629**	**$ 118,791**	**$ 71,690**	**$ 83,450**
TOTAL REVENUE	**$ 1,076,752**	**$ 1,023,753**	**$ 1,052,197**	**$ 947,270**	**$ 966,800**	**$ 873,299**	**$ 960,882**	**$ 899,121**	**$ 892,664**
Police	$ 120,172	$ 115,191	$ 111,708	$ 113,350	$ 113,842	$ 114,046	$ 111,360	$ 104,549	$ 97,287
Fire and EMS	$ 82,496	$ 79,693	$ 77,398	$ 80,971	$ 80,455	$ 81,849	$ 78,674	$ 75,469	$ 70,025
Total Protection	**$ 202,668**	**$ 194,884**	**$ 189,106**	**$ 194,321**	**$ 194,297**	**$ 195,895**	**$ 190,034**	**$ 180,018**	**$ 167,312**
Roads and Related	$ 63,400	$ 62,957	$ 67,897	$ 68,378	$ 78,662	$ 71,553	$ 69,935	$ 71,475	$ 70,421
Transit	$ 105,332	$ 108,233	$ 99,914	$ 103,540	$ 104,111	$ 106,300	$ 104,379	$ 98,646	$ 91,578
Total Transportation	**$ 168,732**	**$ 171,190**	**$ 167,811**	**$ 171,918**	**$ 182,773**	**$ 177,853**	**$ 174,314**	**$ 170,121**	**$ 161,999**
Parks and Recreation	$ 65,998	$ 69,545	$ 65,700	$ 72,174	$ 71,381	$ 73,000	$ 72,042	$ 68,870	$ 65,698
Social, Culture, Community	$ 62,896	$ 65,431	$ 71,300	$ 73,009	$ 75,464	$ 75,578	$ 73,442	$ 72,187	$ 61,059
Total PRSCC	**$ 128,894**	**$ 134,976**	**$ 137,000**	**$ 145,183**	**$ 146,845**	**$ 148,578**	**$ 145,484**	**$ 141,057**	**$ 126,757**
Sewer, Waste, Storm Drain	$ 79,202	$ 85,080	$ 104,397	$ 52,432	$ 52,337	$ 51,452	$ 51,801	$ 47,495	$ 41,691
Other Utility-Based	$ 30,717	$ 25,802	$ 17,729	$ 5,747	$ 13,491	$ 15,251	$ 25,452	$ 30,095	$ 37,112
Environment & Utility	**$ 109,919**	**$ 110,882**	**$ 122,126**	**$ 58,179**	**$ 65,828**	**$ 66,703**	**$ 77,253**	**$ 77,590**	**$ 78,803**
Total General & Other	**$ 65,244**	**$ 91,906**	**$ 99,317**	**$ 60,277**	**$ 55,674**	**$ 47,623**	**$ 46,986**	**$ 63,851**	**$ 69,680**
Interest on Debt	**$ 41,792**	**$ 42,357**	**$ 43,459**	**$ 48,967**	**$ 51,211**	**$ 58,389**	**$ 64,838**	**$ 66,859**	**$ 63,686**
Capital Expenditure	**$ 196,765**	**$ 174,380**	**$ 165,484**	**$ 210,606**	**$ 171,665**	**$ 151,663**	**$ 170,537**	**$ 183,667**	**$ 180,897**
TOTAL EXPENDITURE	**$ 914,014**	**$ 920,575**	**$ 924,303**	**$ 889,451**	**$ 868,293**	**$ 846,704**	**$ 869,446**	**$ 883,163**	**$ 849,134**
BUDGET BALANCE	**$ 162,738**	**$ 103,178**	**$ 127,894**	**$ 57,819**	**$ 98,507**	**$ 26,595**	**$ 91,436**	**$ 15,958**	**$ 43,530**
Less: Retained Earnings	$ (54,085)	$ (49,428)	$ (48,509)	$ (143,132)	$ (119,980)	$ (51,128)	$ (77,235)	$ (100,404)	$ (113,352)
EFFECTIVE BALANCE	**$ 108,653**	**$ 53,750**	**$ 79,385**	**$ (85,313)**	**$ (21,473)**	**$ (24,533)**	**$ 14,201**	**$ (84,446)**	**$ (69,822)**
Net Tax-Supported Debt	$ 83,666	$ 97,670	$ 113,082	$ 144,416	$ 163,123	$ 190,352	$ 212,737	$ 242,348	$ 200,805
Net Self-Supported Debt	$ 275,525	$ 289,599	$ 296,478	$ 313,276	$ 327,173	$ 336,559	$ 350,688	$ 360,146	$ 351,610
Other Net Debt (Contingent)	$ 1,028,782	$ 1,130,717	$ 1,210,634	$ 1,311,563	$ 1,407,611	$ 1,493,601	$ 1,357,574	$ 1,297,620	$ 1,235,357
Total Net Debt	**$ 1,387,973**	**$ 1,517,986**	**$ 1,620,194**	**$ 1,769,255**	**$ 1,897,907**	**$ 2,020,512**	**$ 1,920,999**	**$ 1,900,114**	**$ 1,787,772**
Population	**636,100**	**626,500**	**616,306**	**620,000**	**623,400**	**626,999**	**618,195**	**614,665**	**605,538**
CPI (2007=100)	**76.7**	**76.0**	**74.6**	**73.0**	**71.6**	**70.4**	**69.9**	**68.6**	**65.0**

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APPENDIX C: Further Reading

Since 2000, the Canada West Foundation's Western Cities Project has resulted in the publication of numerous studies and reports on municipal finance issues. The following studies are available for order through the Canada West Foundation or free download from the CWF website (www.cwf.ca):

- Berdhal, Loleen. 2000. *Financing Western Cities: Issues and Trends.* Canada West Foundation. Calgary, Alberta.
- Gibbins, Roger; Berdahl, Loleen; and Vander Ploeg, Casey G. 2004. *Foundations for Prosperity: Creating a Sustainable Municipal-Provincial Partnership to Meet the Infrastructure Challenge of Alberta's 2nd Century.* Canada West Foundation. Calgary, Alberta.
- Vander Ploeg, Casey G. 2006. *New Tools for New Times: A Sourcebook for the Financing, Funding, and Delivery of Urban Infrastructure (Parts I and II).* Canada West Foundation. Calgary, Alberta.
- Vander Ploeg, Casey G. 2005. *Rationale for Renewal: The Imperatives Behind a New Big City-Provincial Partnership.* Canada West Foundation. Calgary, Alberta.
- Vander Ploeg, Casey G. 2004. *Big Spenders? An Expenditure Profile of Western Canada's Big Six.* Canada West Foundation. Calgary, Alberta.
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- Vander Ploeg, Casey G. 2002. *Framing a Fiscal Fix-Up: Options for Strengthening the Finances of Western Canada's Big Cities.* Canada West Foundation. Calgary, Alberta.
- Vander Ploeg, Casey G. 2001. *Dollars and Sense: Big City Finances in the West, 1990-2000.* Canada West Foundation. Calgary, Alberta.

About the Canada West Foundation

Our Vision
A dynamic and prosperous West in a strong Canada.

Our Mission
A leading source of strategic insight, conducting and communicating non-partisan economic and public policy research of importance to the four western provinces, the territories, and all Canadians.

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In 1970, the One Prairie Province Conference was held in Lethbridge, Alberta. Sponsored by the University of Lethbridge and the Lethbridge Herald, the conference received considerable attention from concerned citizens and community leaders. The consensus at the time was that research on the West (including BC and the Canadian North) should be expanded by a new organization. To fill this need, the Canada West Foundation was created under letters patent on December 31, 1970. Since that time, the Canada West Foundation has established itself as one of Canada's premier research institutes. Non-partisan, accessible research and active citizen engagement are hallmarks of the Foundation's past, present and future endeavours. These efforts are rooted in the belief that a strong West makes for a strong Canada.

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