

**The State
of the
Federation
2015**

**Canadian
Federalism and
Infrastructure**

Edited by

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Gordon, Kyle Hanniman, André
Juneau, and Robert A. Young*

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PREFACE

The 2015 State of the Federation volume, *Canadian Federalism and Infrastructure*, highlights the investments that have been and continue to be crucial to the well-being of Canadians. Federal and provincial budget speeches are replete with references to the problems of maintaining and expanding the required levels of investment, while virtually every municipal government—collectively the largest owners and managers of

design, and Mary Kennedy, our indispensable institute administrator. Mary is the anchor of the institute and always ensures the smooth running of our conferences, events, and publications.

It is with great sorrow that I note the death of Dr. Robert Young, who helped to organize our 2015 conference and edit the present volume. These were simply the most recent of the innumerable contributions that Bob has made over many years to the institute. He has been a dear and valued friend of the IIGR, serving both as a fellow and as a member of the Advisory Council. His wisdom and wise counsel will be sorely missed. It is with great sadness that we dedicate this volume to his memory.

Elizabeth Goodyear-Grant
Director, Institute of Intergovernmental Relations
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DEDICATION

Robert Young, 1950–2017

This *State of the Federation* is dedicated to one of the volume's co-editors, Dr. Robert Young. Bob passed away in August 2017, while the volume was being prepared for publication.

As a professor of political science at Western University, Bob was one of the coun-
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CONTRIBUTORS

John R. Allan is a fellow and a past director of the Institute of Intergovernmental Relations. He is also vice-president emeritus and professor of economics emeritus of the University of Regina.

Michael Fenn was an Ontario deputy minister under three premiers. He is now a researcher and management consultant and a member of the board of the Ontario Municipal Employees Retirement System (OMERS) pension fund.

Bill Ferreira

Greg Richard is chief economist of Fiscal Realities Economists. His prior experience was in government, working in the areas of economic development, intergovernmental relations, and public finance.

Matti Siemiatycki is associate professor of geography and planning, and Canada Research Chair in Infrastructure Planning and Finance at the University of Toronto.

Enid Slack is director of the Institute on Municipal Finance and Governance at the Munk School of Global Affairs at the University of Toronto. She has worked with the World Bank, the IMF, CIDA, UN Habitat, and other international agencies, advising on a variety of issues.

Robert Young is a senior advisor at the City of Toronto. He has worked at the municipal level of government and civil society.



elements of the water supply, sewage, and roads systems that might be considered public goods. The system managers were often left with the operations and maintenance issues, without a revenue stream to fund them. Ironically, Emery observes that the government decision to make the use of most highways untolled had the

During the 1950s and '60s, government infrastructure investment grew rapidly, when, as Emery observes, the federal and provincial governments made huge contributions to the construction of national and inter-provincial networks in waterways, electricity, pipelines, highways, hospitals, schools, universities, and social housing. In recent years, when urban growth has been the primary driver of infrastructure investment, the share of provincial and federal ownership has declined, and local governments are now responsible for over half of Canada's infrastructure stock. These trends, Emery suggests, have increased tensions between the orders of gov-

The shift of infrastructure ownership to the local level is also noted in McNally, Ferreira, and Gordon's chapter, which outlines the current dimensions of the municipal infrastructure problem. Over half of the nation's infrastructure is now owned by local governments, which are responsible for maintenance, repair, and replacement, (sewers, roads and transit) was built in what may have been the "golden age" in the 1950s and '60s and is now reaching the upper limits of its service life, with major reinvestment or replacement required in the decades ahead.

McNally, Ferreira, and Gordon note that the postwar era saw a fundamental shift in Canada's community structure to suburban lifestyles that have major implications for infrastructure policy. The nation's population shifted from rural to urban networks. The upgrades in the urban potable water and sanitary sewer networks in the 1950s and '60s led to a decline in infectious diseases, decreasing infant mortality rates, and increasing adult lifespans. Then, postwar migration towards the "Canadian dream" of single homes and automobile travel led to mass suburbanization. By 2011, more than two-thirds of Canada's population lived in suburban environments that were far lower in density and more

the

Introduction

5

decisions respecting the revenue and expenditure sides of local budgets are made

revenue bute motegs,e thys a

evaluating and pricing many public services so formidable, that even exceptionally strong intergovernmental reporting and accountability structures are unlikely to {kgnf" rwdnke/ugevqt" ghf ekgpe{ "kp" eq o ringz" o gvtqrqnkvcp" tgi kqpu" nkmg" vjg" I V J C." even in the presence of a strong metropolitan governance structure.

Jqy gxtg" fkhf ewnv" vjg" e j c m g p i g. "U n c e m" c p f" D k t f" c t i w g" v j c v" r t q i t g u u" e c p" d g" o c f g" towards establishing a stronger Wicksellian connection between revenues and g z r g p f k w t g u" c v" v j g" n q e c n" n g x g n 0" V j g" f k h f e w n v" { " k u" v j c v" c n o q u v" p q" q p g" y c p w u" v q" j g c t" truths as unpleasant as "users should pay" or that "redistribution through mispricing local public services is almost always a bad idea."

The focus of the Boadway-Kitchen chapter is not on the size of any infra- u v t w e w w t g" f g f e k v. " d w v" t c v j g t" q p" y j { " u w e j" c" f g f e k v" u j q w n f" g z k u v 0" K h. " c u" k u" i g p g t c n n { " c i t g g f. " k p h t c u v t w e w w t g" k p x g u v o g p v" k u" d g p g f e k c n" v q" u e q e k g v { . " y j { " f q g u" i q x g t p o g p v" not freely pursue an optimum level of investment? This query prompts them to enquire whether the decentralized nature of such investment, in conjunction with v j g" u { u v g o" q h" k p v g t i q x g t p o g p v c n" f u e c n" c t t c p i g o g p v u. " e c w u g u" w p f g t / k p x g u v o g p v" k p" infrastructure. More generally, they seek to establish what the architecture of federal f u e c n" i n? v \$ p q q p g

could generate more revenue than it currently does, and that there is no evidence
note that there is a presumption that many, if not most, municipalities have not fully
exploited their capacity to impose user fees, licences, permits, special assessments,
development charges and similar levies.

and driving everywhere on fast, uncongested roads. These policies may have been

In her chapter, “Distorted Infrastructure,” Blais describes how price systems shape urban form if infrastructure development charges are based on average costs across a municipality, while most of the population growth is happening on

In his paper, Jacques Caron outlines the main features of the Quebec government's ten-year infrastructure plan. Interestingly, Quebec is the only provincial government where infrastructure planning is the responsibility of the Treasury Board Secretariat and not of a dedicated infrastructure department (sometimes combined with the transportation department). The plan runs from 2015 to 2025 and is funded adequate to meet Quebec's ever-growing needs, the government continues to look for new ways of investing in the sector. The paper emphasizes and describes the twin goals of reducing the obsolescence of public infrastructure to maintain an adequate level of public services, and of fostering economic development. Caron makes distinctions among the concepts of asset maintenance, replacement, additions, and improvements.

Transportation and health and social services have the largest numbers of projects and the largest proportion of the funding. Caron includes tables on the number and funding of projects by sector. A chart in the paper displays priority-setting guidelines for maintaining services through asset maintenance and replacement, and for improving services. He then turns to a review of governance and decision-making for infrastructure projects. Planning and implementation are based on departments and the contents of the necessary documents. In addition, the stages with a description of the government's commitment and approach to transparency in infrastructure spending.

Uguukqp"ō"qh"vjg"eqphgtpege"hqewugf"qp"xctkqwu"ogcpuōdqvj"vtcfkvkqpcn"cpf" kppqxcvkxgōqh"īpcpekpī"kphtcuvtwevwtg"cv"vjg"fkhhgtgpv"ngxgnu"qh"iqxgtpogpv" Vjg"hqtogt"hgfgtcn"fgrrwv"okpkvugt"qh"īpcpeg."Ueqv"Enctm."gzcokpgf"vjg"hgfgtcn" Nkdgtcmūi"gngevkqp"rtqokug"vq"īpcpeg"kphtcuvtwevwtg"kpvguvogpvu"vjtgwi"j"dwfi"gv" fgīekvu"Jg"cnuq"gzrnqgtf"vjg"ejcngpi"kpī"kuuwg"qh"uwrrqtvkpi"kphtcuvtwevwtg"kp" Canada's highly decentralized federation. The paper by Kyle Hanniman of Queen's ycu"cnuq"eqpegtpgf"ykvj"īpcpekpī"kphtcuvtwevwtg"kpvguvogpvu"d{"dqttqykpī."dww"cv" the local level of government. Hanniman was particularly interested in the issue of egpvtcnk|cvkqp"qh"nqecn"dqttqykpī."c"eqpukfgtcvkqp"vjcv"jcu"ickpgf"uk _ ` _ "

wpengct0Pqv"qpn{"eqwnf"egpvtcnk|cvkqp"fkuvqtv"hqecn"t uecn"fgekukqpu."dwv"kv"y qwnf"cnuq" dg" fkh f ewnv"vq"ko r ng o gpv" i kxgp" r tqxkpekcn"cwv j qtkv{"qxgt" o wpkekr cn" t pcpegu"cpf" borrowing. Finally, while centralization would improve municipal credit conditions, current conditions are hardly oppressive. Problems of access have been short lived, and municipalities continue to borrow at extraordinarily low rates.

In chapter 11, Michael Fenn suggests that Ontario and other Canadian govtp o gpvu"qw i jv"vq" t pf" pg y" cpf" kppqxcv kxg" y c{u"vq" t pcpeg" r wdnke" kphtcuvtwevwtg0" Drawing on Australian and European examples, he recommends an explicit policy qh"ör wdnke"cuugv"tge {enkp i :-<"hwpf kpi" kphtcuvtwevwtg"pggf u"d{"ugnmkpi"uvcmgu"kp" i qx- ernments' legacy assets. The value of these assets is considerable, argues Fenn, and they provide attractive investment opportunities for domestic investors, including public pension funds, many of which have been buying government assets abroad. Asset recycling also limits the need for borrowing and raising taxes and fees, major advantages in an era of tax aversion and rising debt-servicing costs.

But, to succeed, asset recycling cannot be done haphazardly. Certain policies and r tqeg fwtgu"pggf"vq"dg"kp"rnceg0"V j g u g" u j qwnf" kpenwfg. "Hgpp"uw i i guvu. "vj g" hqmqy kpi <" providing accurate estimates of the value and likely performance of the assets that governments plan to sell; hiring personnel capable of protecting governments' interests in public-private partnerships and other complex transactions; ensuring that proceeds from asset sales are used for near-term construction of new assets; establishing an arms-length regulator (one capable of balancing public and private interests) to oversee the private operation of public infrastructure; ensuring a steady pipeline of projects for potential buyers; recognizing investors' need for reasonable, risk-adjusted returns; avoiding overly complex, expensive and inconsistent transaction processes; and respecting the role and contributions of public-sector unions.

In organizing the 2015 State of the Federation conference, the program committee decided to include in the program the Institute's MacGregor Lecture. This endowed lectureship was established to honour the memory of Kenneth R. MacGregor, a former trustee of Queen's University and a Canadian who distinguished himself in both the public and private sectors, as the federal superintendent of insurance and as president of Mutual Life Assurance of Canada, respectively. Previous Oce I tgi qt" hgevwgtu" ytg" Tqdtv" Uvcp t gnf. "Rgyt" Nqw i jggf. "Cnncp" Dncm gpg {. "Cndgtv" Breton, Gordon Robertson, Daniel Elazar, Roger Gibbins, Richard Simeon, and Alan Cairns. The Institute of Intergovernmental Relations was delighted that José Gómez-Ibáñez, the Derek Bok Professor of Urban Planning and Public Policy at the Kennedy School of Harvard University, accepted our invitation to deliver the 2015 MacGregor Lecture at the State of the Federation conference. For this MacGregor Lecture, Dr. Gómez-Ibáñez chose for his topic "Public-Private Partnerships in kphtcuvtwevwtg<"Uq o g" Nguuqpu" Ngctpgf0:-

Dr. Gómez-Ibáñez's lecture, presented here as chapter 13, begins by noting that c"eq o o qp" o gv j qf" qh" gh t ekgpvn{ "dwknfkpi" cpf" r tkekpi" pg y" tqcf" kphtcuvtwevwtg"ku" through public-private partnerships (P3s). He then draws upon Canadian, American and Mexican P3 experience in roads and bridges to illustrate and support the views

stable solution, Richard argues, must avoid the limitations that characterize revenue sharing or revenue agreements, which he outlines.

Rather than arguing in favour of some particular variant of an ART, Richard advocates the general principle of such a tax, one that would tap into the incremental revenue generated by resource developments on the traditional lands of a First Nation. Levied by First Nations, it would be used to fund their infrastructure needs. Such a tax would reduce the administrative burden on First Nations governments, reduce the cost and complexity of negotiations, provide economically and politically reliable revenues, and allow the funding of a broader range of projects. The author also argues that the tax would improve the investment climate by reducing

If accompanied by appropriately structured federal and provincial tax credits, the tax could be made revenue neutral to the resource developer.

The conference concluded with a session that compared elements of infrastructure investment in Canada with corresponding experience in the United States and in Australia. Only the paper discussing the former is available in this volume. The chapter by Martin Horak and Gabriel Eidelman examines the interaction of federalism and the provision of transportation infrastructure in the United States, and contrasts this with comparable experience in Canada. They begin by noting that both countries are highly decentralized federations in which subnational governments enjoy wide-ranging policy autonomy, and both share broadly similar geographies and development histories. They thus exhibit similarity of settlement patterns and infrastructure needs. Both countries also share a dominant political discourse around infrastructure, which is that there is a national infrastructure crisis that can only be resolved by increased federal aid. The balance of the chapter, however, is devoted to demonstrating that the similarities end there, both in terms of institutional structure and the historical role of the federal government in infrastructure funding and decision making.

Eidelman note is the deliberate fragmentation of political authority in the United States, and the diffusion of authority within each level of government. The resulting multiplicity of sources of authority allows local interests a voice in national policy processes. While federal policies shape the scope of state and local infrastructure programs, decisions emerge from a bottom-up process in which political coalition-building at state and local levels largely determines the projects that become

historical overview of how this process has functioned to shape US public infrastructure spending on surface transportation, a process in which the extensive and systematic federal involvement stands in stark contrast to the Canadian experience.

The analysis leads Horak and Eidelman to draw several comparative conclusions respecting the processes of infrastructure spending on surface transportation in the two countries. First, the American federal government has persistently played

a much larger role in infrastructure spending in this area than does its Canadian

A BRIEF HISTORY OF
INFRASTRUCTURE IN CANADA,
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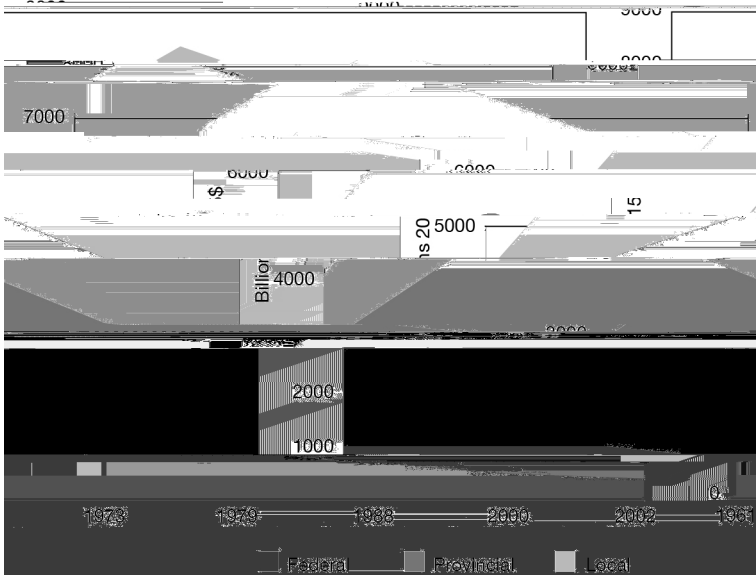
Herb Emery

Infrastructure has long been an important investment for economic prosperity, but of late the focus on infrastructure has been as a public investment to enhance

lines, and communication systems, often publicly owned. Gramlich observes that

What do we know about *public* infrastructure capital *stocks* in Canada? Jctejcqw."Vctmjcpk."cpf"Ycttgp"*4226+"ujqy"vjcv"ukpeg"3;83."qxgt"97"rgtegpv" has been provincial and local infrastructure, that portion reaching over 90 percent in 2002. Consequently, the role of the federal government has been more in terms qh"uwrrqtvp i"vjg" fpcpeg"qh"kphtcuvtwevwtg"eqpvtqmgf"d{"vjg"rtqxpegu"cpf" owpk-cipEMC /Sp3(1300130017000C0003>74005600#0052005Tms.C 740T0.6 alben morLa0.6 (has b

Figure 2.2: Value of Public Infrastructure Stock per Capita in Canada, Falling since 1979



Uqwteq" J cte j cqwk." Vctm j cpk." cp f" Ycttg p" 4226." Vcdng" 50

be recouped through pricing. Crown corporations operating as regulated natural monopolies have been the source of many of these privatizations.

Kphtcuvtwewtg" uwr rqtvgf" dwv" pqv" pgeguuctkn{ " ĩpcpegf" d{ "hgfgtcn" i qxgtp o gpvu" j kuvqtkecn{ " j cu" tgEgevgf" v jg" uvcpfctf" ct i w o gpv" hqt" hgfgtcn" kpxqnxg o gpv" kp" kphtc- uvtwewtg." y jkej" ku" ødggp ĩ v" urkmqxtu- " * I tc o nkej " 3 ; ; 6." 33 ; 2+0" Ekvk ĩ gpu" qwvukfg" the jurisdiction where the investment occurred expected to receive some of the dggp ĩ vu" qh" v jg" kpxguv o gpv." qhvgp" d{ " v jg" qr rqtvwpkvku" kv" etgcvgf0" V jg" kpxguv o gpv" kp" transportation and communication is necessary to open up hinterland to economic activity to provide producers access to international markets. Railways, canals, roads, pipelines, and ports spurred prairie settlement in the Wheat Boom era, and more recently are thought to be a precursor to northern development. In a different context, federal and provincial investment in research facilities has been instrumental in turning resources into reserves.

Federal and provincial government involvement has often been greatest in those ukvvcvkqpu" y jgtg" v jg" r tqlgev" o wuv" dg" dwknv" c jgc f" qh" fg o cpf" kp" v jg" ĩ tuv" r j cug0" V jg" r qvgpvkcñ" geqpq o ke" dggp ĩ vu" vq" dg" ecrwtg f" d{ " kpvgtguvu" qv jgt" v jcp" v jg" fgxgnqrgt" and operator of the infrastructure project, or a preference by Canadians for where, how and when the project would be developed, required government involvement.

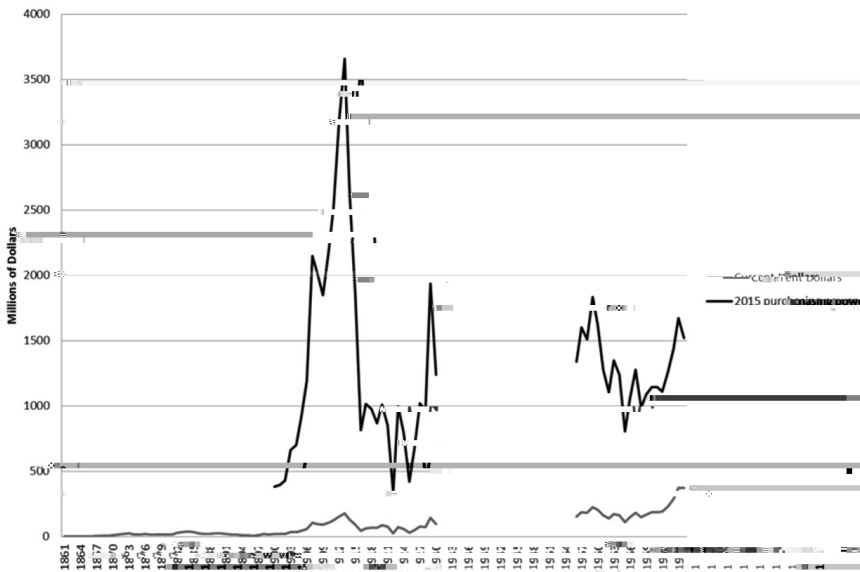
Government could play an important role in the project through arrangements to share the project’s risk or to mitigate the downside risk of the private developer.

In a subsequent stage of development, higher levels of government support infrastructure investment that encourages integration of regional economies through communications and road networks, postal services, and radio and television broadcasting.

Infrastructure investment supported by provincial and local governments can j cxg" c" rwtrqug" fkhhtgtpv" vjcp" vjcv" qh" gpeqwtc ikpi" i tqyv j" ykvj" urknnqxtg" dggp fvu0" In some cases, like the Churchill railway in Manitoba, the goal is to support the province’s retaining more of GDP from exports and to attracting capital to the local economy, potentially at the expense of the interests of the national economy. Or the investment may be to improve the amenity value of a locale, or to remove a disamenity such as sewage/waste/garbage.

History shows us that infrastructure investment is “lumpy” and episodic. Often the investment is spurred by new technology such as canals, railways, and then autos, or moving from telegraph to telephone to broadband Internet communications. With the shifts in transportation and communication possibilities, investments must typically occur all at once, since the technologies are network based or subject to other project indivisibilities. For example, Figure 2.3 shows investment spending on railways transport and telegraphs over two periods, from 1861 to 1930, when

Figure 2.3: Investment Spending, Railways, Canada, 1861–1976



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rail transport was emerging as the new system, and from 1956 to 1976, when road transportation was emerging as an important mode of transportation. In 2015 purchasing power, the rail investments of the earlier period of western settlement y cu" o cuukxg" fwtkpi "vjg" †tuv" fgecf g"qh"vjg"vy gpvkgvj"egpwt {. "cu"vy q"vtcpueqpvpk-ental railways were completed, and branch-line construction followed a rapid pace

large and compressed period of construction in the 1960s and early 1970s, driven by Baby Boomers reaching and leaving school age. For all of these categories, the

development, and governments with strong revenues and low debt all support the raising of funds for the project.

Interesting “Facts” But So What?

Roads, sewage treatment, and sanitary sewers are prominent in the federal, provincial, and local public capital stocks, particularly if we consider that the federal government provides grants for roads to other levels of government without netting out the federal share. The composition suggests that much of the shifting relative importance of local public capital stocks in the past few decades has been urban growth and development, and less around the hinterland resource development that was a more prominent focus for the federal and even provincial governments. In addition, many of the infrastructure investments have been lumpy investments built ahead of demand. Once the capital was in place, subsequent investments were mostly incremental, for offsetting depreciation, effecting necessary improvements and some expansion. In addition, the investments created excess capacity for services until demand grew into the capital. So even qualitatively, more congested roads and networks than in the past.

Consider a prominent policy discussion in Canada as to the adequacy of investment in infrastructure. Simple comparisons of rates of investment may be misleading because many projects were lumpy investments built ahead of demand. Once the capital was in place, subsequent investments were mostly incremental, for offsetting depreciation, effecting necessary improvements and some expansion. In addition, the investments created excess capacity for services until demand grew into the capital. So even qualitatively, more congested roads and networks than in the past.

With ahead-of-demand investment in infrastructure, there may be “capital vintage” or similar issues over time. Capital may embody a technology that is not enduring, and so locations are “locked in” for some lifespan of the capital. To the extent that capital is embodied in infrastructure, there may be “capital vintage” or similar issues over time. Capital may embody a technology that is not enduring, and so locations are “locked in” for some lifespan of the capital. To the extent that capital is embodied in infrastructure, there may be “capital vintage” or similar issues over time.

In other cases societal norms change so that infrastructure that seemed adequate is suddenly lacking in terms of ideal services. For example, willingness to dump raw sewage into coastal waters or the Great Lakes system reduced the need for waste treatment facilities in some Canadian cities, but changing preferences of residents

Financing Infrastructure

In a slowing economy, the demands for infrastructure seem heightened while the willingness and capacity of governments to take on debt to pay for the investment seems muted. This contrasts with the historical pattern that the big

project to include monies to offset future depreciation or to build to the ideal scale accompanied by a commitment of revenues to support operation and maintenance of the project.

A look at the history of infrastructure in Canada ultimately reveals why the liter-

THE CANADIAN INFRASTRUCTURE REPORT CARD¹

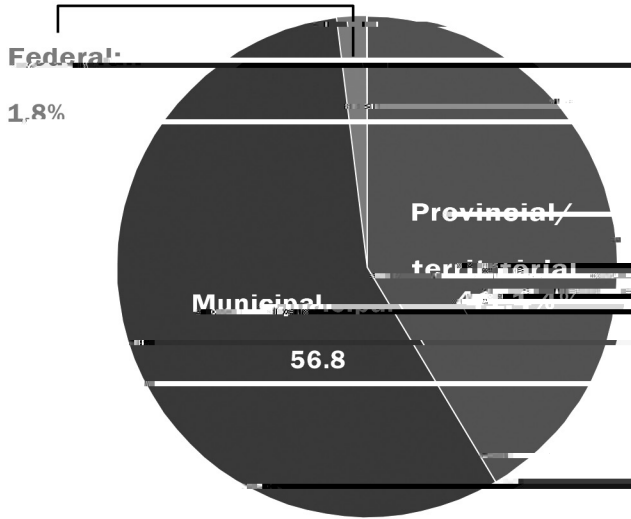
Chris McNally, Bill Ferreira, and David L. A. Gordon

Most Canadian citizens are largely unaware of the infrastructure that enables their community to function, except for perhaps the roads they drive on, the public transit they ride, or a park they enjoy walking in. Moreover, few of them grasp the networks that each involves and the planning needed to try to ensure their reliability (Hodge 2013). In the cases of supplying water and dealing with sewage; or, when it is visible, as with electricity supply, it largely goes unnoticed.

Until it fails.

Municipalities own many core infrastructure assets that are critical to the quality of life of Canadians and the competitiveness of the country. Almost 60 percent of Canada's core public infrastructure is owned and maintained by municipal governments (see Figure 3.1). Many of these assets were built during the "golden age" of infrastructure investment in the 1950s, but Canada's population is growing and the

Figure 3.1: Net Stock of Core Public Infrastructure by Level of Government, 2013



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kpeq o rnvvg" fvc" cpf"ko rgthgev" o gvjqfu"*Oe I knn"HEO"3 ; ;8-"UNFH" 4226+0"Vjg" Canadian Infrastructure Report Card (CIRC 2012) was developed by a consortium of the Canadian Construction Association, Canadian Public Works Association, Canadian Society for Civil Engineering, and Federation of Canadian Municipalities to assess the health of Canada's municipal infrastructure and inform stakeholders about issues and trends. The objective was a rigorous, repeatable process that would be defensible, factual, and used to raise awareness, not for political advocacy. The CIRC is guided by an advisory board of sixteen national organizations associated with infrastructure (CIRC 2016, Appendix B).

The survey for the second edition of the *Report Card* was completed in 2015 and is the source for most of the discussion in this chapter.

REPORT CARD STUDY METHODOLOGY

The American Society of Civil Engineers provided a model for the CIRC with its *Report Card for America's Infrastructure*, issued on a regular basis since 1998 (ASCE 2013). The methods in the ASCE surveys were improved over the years (Mirza 2006) and informed the original 2012 CIRC, which examined drinking water, wastewater, stormwater, and municipal roads systems. The 2016 CIRC was

Figure 3.2: Changes in Ownership in Infrastructure Capital by Jurisdiction, 1955–2007

expanded to also cover municipal bridges, buildings, transit infrastructure, and sports and recreation facilities.

The information used in the 2016 CIRC was collected using a voluntary survey distributed to the nearly 2,000 members of the Federation of Canadian Municipalities (FCM), which represent nearly 90 percent of the Canadian population. Information on transit infrastructure was collected through a separate survey with the help of the Canadian Urban Transit Association (CUTA).

information and communication technologies. As such, the total value of municipal infrastructure is not inclusive of all infrastructure assets.

The survey developed for the 2016 CIRC contained nearly 100 detailed questions on the inventory, condition, and management of municipally owned or leased infrastructure. A total of 120 municipalities responded to the survey, including ten regional municipalities and 110 single or lower-tier municipalities. These 120 municipalities represent a population sample of nearly twenty million Canadians, equivalent to 56 percent of Canada's total population. The survey results were extrapolated to the full Canadian population³ to achieve the national picture presented below, with the exception of the transit data, which was only extrapolated to the serviced transit population of Canada.⁶

It is important to take a number of factors into account when reading the extrapolated results discussed below. First, the survey was entirely voluntary and did not target 1 (resusn articlatrfrasnFa3not)Tppiatount wigh take atf d not 5 Canada. L5 Tm [(tar) l (n

provide a national picture. This approach produced a more accurate extrapolation as the inventory, condition, and value of municipal infrastructure per household differs by size of municipality.

The methodology followed was not designed to produce exact numbers but rather to provide a picture of the health of Canadian municipal infrastructure foundation and its value across the country.

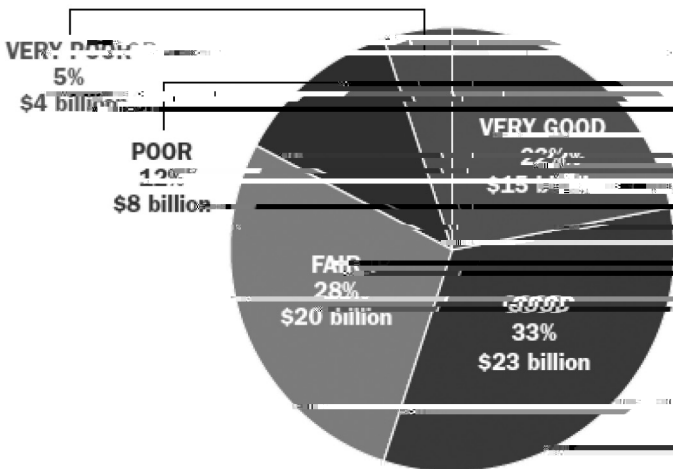
RESULTS BY SECTOR

Municipal Buildings

The municipally owned buildings that were included in the CIRC survey include administrative buildings, childcare/daycare centres, community centres and cultural centres, libraries, municipal offices, police stations, paramedic stations, police stations, and shelters.

Very good buildings were in the best condition, while administrative buildings, paramedic stations, and police stations were generally only in Fair condition, requiring attention.

Figure 3.7: Municipal Buildings – Physical Condition Ratings by Replacement Value



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Public Transit

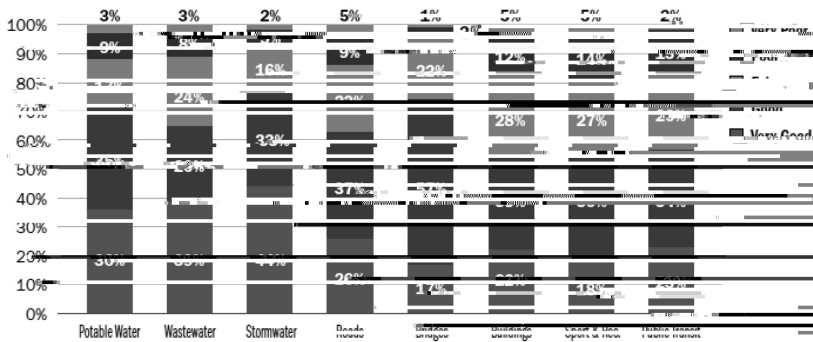
V jg"EKTE"uwtxg{gf"vjg"hqmqy kpi" o wpkekr cnn{ "qy ppgf"vtcpukv"cuugvu<"dwugu."uvtggv-cars, ferries, heavy railcars, commuter railcars, light railcars, mobile technology, security systems, rail signal systems, terminals, transit shelters, tunnels, exclusive rights-of-way, tracks, parking facilities, and service facilities. The range of transit assets is quite diverse, and more detail was gathered for this asset category to provide a better picture of the state of public transit assets.

V jg"qxgtcmm"tcvkpi"qh"r j {ukecn"eqpfkvkqp"qh"vtcpukv"cuugvu"ku" I qqf<"c fgs wcvg"hqt" ppy="kp"ceegr vcdng"eqpfkvkqp"V jg"dwu"(Eggv"cpf"vge.j pqq i { "u {uvg o u" y gtg"kp"Xgt{ "

NATIONAL PERSPECTIVE

One-third of Canada’s municipal infrastructure is in Fair, Poor, or Very Poor condition, increasing the risk of service disruption. The survey asked municipalities to rate their infrastructure from Very Good to Very Poor. Nearly 35 percent of assets are in need of attention. Assets in Fair, Poor, and Very Poor conditions represent a call for action. Survey results demonstrate that roads, municipal buildings, sport and recreation facilities, and public transit are the asset classes most in need of attention. Figure 3.10 provides a summary of the physical condition ratings for the sectors covered in the CISC.

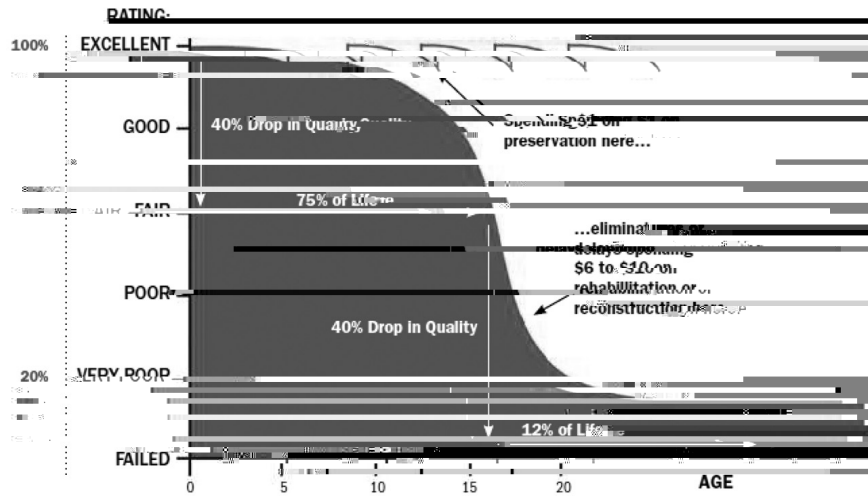
Figure 3.10: Summary of Average Physical Condition Rating



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The estimated replacement value of the infrastructure that was in Very Poor country, with roads accounting for one-third of the total (see Figure 3.11). The problems can be expected to get worse in the future because reinvestment levels are below what is required to maintain the assets in every class of infrastructure.

Figure 3.11: A Penny Today or a Dollar Later: Example of Asset Deterioration Curve (Roads)



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CONCLUSIONS

Increasing reinvestment rates will stop the deterioration of municipal infrastructure. The 2016 CIRC found that rates of reinvestment are lower than the targets recommended by asset-management practitioners. The rate can vary based on factors such as the age of the infrastructure, the level of service, and risk tolerance. The values provided are based on the experience of municipal asset-management practitioners and are intended to be informative in nature. Roads and sidewalks, storm water, and sport and recreation infrastructure presented the largest gaps in terms of condition. Tables 3.2 and 3.3 on the next page demonstrate the gap between current and target reinvestment levels. Continuing down this path will result in a gradual decline of physical condition levels that will affect municipal services.⁷ When contrasted with target reinvestment rates,⁸ current levels of reinvestment in municipal infrastructure are clearly inadequate.

Increasing reinvestment rates will save money in the long term. Without an increase in current reinvestment rates, the condition of Canada's core municipal infrastructure will gradually decline, costing more money and risking service disruption. For example, Figure 3.13 demonstrates that when roads, as is typical for many assets,⁹ are allowed to deteriorate below a Fair condition rating, the rate of deterioration and reinvestment costs both increase substantially. Investing in preventive maintenance and regular repair will prolong the asset service life, avoiding premature and costly reconstruction and service disruption (Galehouse, Moulthrop, and Hicks 2003).

Building for today's communities and tomorrow's Canada requires long-term planning. Survey results demonstrate that if current rates of reinvestment do not

7. The 2016 CIRC survey collected data on the current value, the estimated replacement

Table 3.2: Summary of the Physical Condition of the Infrastructure Studied, by Replacement Value, Extrapolated to the Entire Country

Infrastructure	Extrapolated Replacement Value of All Assets	Assets in Very Poor and Poor Condition	Assets in Fair and Good Condition	Condition Based on Reinvestment Levels
		Replacement Value	Replacement Value	(Improving, Stable, Declining)
Potable Water	\$207 billion	\$25 billion (12%)	\$35 billion (17%)	Declining
Wastewater	\$234 billion	\$26 billion (11%)	\$56 billion (24%)	Declining
Stormwater	\$134 billion	\$10 billion (7%)	\$21 billion (16%)	Declining
Roads	\$330 billion	\$48 billion (15%)	\$72 billion (22%)	Stable
Bridges	\$50 billion	\$2 billion (4%)	\$11 billion (22%)	Declining
Buildings	\$70 billion	\$12 billion (17%)	\$20 billion (29%)	Declining
Sport and Recreation Facilities	\$51 billion	\$9 billion (18%)	\$21 billion (41%)	Declining
Transit	\$57 billion	\$0 billion (0%)	\$15 billion (27%)	Stable
Total	\$1.1 trillion	\$141 billion (12%)	\$247 billion (22%)	
Replacement value per Household	\$80,000	\$16,000	\$29,000	

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Table 3.3: Target Reinvestment Rates vs. Current Reinvestment Rate

Infrastructure	Lower Target	Upper Target	Current
Potable Water (linear)	1.9%	1.5%	0.9%
Potable Water (non-linear)	1.7%	2.5-3%	0.9%
Wastewater (linear)	1.9%	1.9%	0.7%
Wastewater (non-linear)	1.7%	1.5%	0.7%
Stormwater (linear)	1.9%	1.9%	0.9%
Stormwater (non-linear)	1.7%	2.0%	0.9%
Roads and Sidewalks	2.0%	3.0%	1.1%
Bridges	1.9%	1.5%	0.9%
Buildings	1.7%	2.5%	1.7%
Sport and Recreation	1.7%	2.5%	1.5%

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Mackenzie, Hugh. 2013. *Canada's Infrastructure Gap: Where It Came From and Why It Will Cost So Much to Close*

the various ... jurisdictions.”⁵ “Kp”cf fkvkqp”vq”hceknkvckpi”vjg”cejkgxg o gpv”qh”ghf-
ekgpe{”cpf”ceeqpvcdknkv{.”nkpmpki”gzrgpfkvwtg”cpf”fpcpeki”ujqwnf”cnuq”rtq o qvg”
gswkv{”d{”gpuwtki”vjcv”yjc”ku”fppg”cpf”jqy”kv”ku”fpcpegf”ctg”uwhfkgpvn{”hckt”vq”
be acceptable within the existing representative institutional democratic structure.⁶

Lwuv”cu”cr rtrtkcvg”wug”qh”vjg”dggpfv”rtkpekng”kp”vjkugpug”qh”nkpmpki”vczcvkqp”
and spending—the Wicksellian Connection—is central to achieving the aims of
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vjg”ugtxkegu”rtqxfgf”ku”egpvtcn”vq”c”uqwpf”nqecn”fpcpeg”u{uvgo 0”Kp”uwej”c”u{uvgo.”
expenditure responsibilities are matched with revenue resources, revenue capacities
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producing and selling services to their customers.⁷ But local governments operate
in many different institutional settings and offer some services that are essentially
örtkxcvg-”kp”pcvwtg”*vjcv”ku.”eqpuw o gf”d{”urgekfe”rgtuqpu+.”qvjgtu”vjcv”ctg”nqecn”
public goods, and still others that spill over jurisdictional boundaries to varying
degrees. Local governments often have little discretion with respect to either the
services they offer or how they pay for them. The net result is that in the end many
local public services are not paid for either by local residents or by the (overlapping
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However, Canadians have paid surprisingly little attention to the basic idea that

C" o clqt"nqecn" ĩpcpekpi "kuuwg"ewttgpn{"hcekp i "v j g"Rtqkpeg"qh"Qpvtkq"ku" j q y " vq" ĩpcpeg" v j g" t g i kqpcn" rwdnke" vtcpukv" u { uvg o " k p" v j g" Vqtqp"vq" o gvtqrqnkvcp" ctgc0" Unfortunately, as we show in the next section, the recent discussion of this issue provides an excellent illustration of the results of neglecting the importance of the Wicksellian Connection. Although many of the reports surveyed below talk about v j g" k o rqtvcpeg"qh"nkpmkpi "dggp ĩvu"cpf"equvu."hg y "tgeq o o gpf"v j g"dguv"y c {"qh"fqkpi" this—improved transit fares and highway tolls—and most attempt to shift far too much of the cost to taxpayers who may not receive any visible, measurable, or uki pk ĩecpv" dggp ĩvu"htq o "uwej"gzrgpfkwtg"cpf" o c {" j gpeg."pqv" wptgcuqpcdn {"dg" reluctant to pay for it. As we note in the concluding section, although advances kp"vge j p q q i {" o cmg" c" o qtg" tcvkqpcn"nqecn" ĩpcpeg" u { uvg o " o qtg" ce j kgxcdng" v j cp" was true in Wicksell's (or even Musgrave's) time, it remains far from clear that the people (or politicians) in Ontario—or in Canada as a whole—are yet willing vq" hceg"wr" vq" v j g" geqq o ke" tgcnkvgu"qh"nqecn" ĩpcpeg" dtqw i j v"qw"kp" v j ku" fkuewuukq0

FINANCING REGIONAL PUBLIC TRANSIT IN ONTARIO

In no area ... is economic thinking on pricing, and even the administrative feasibility of correct pricing more developed [than with respect to transportation]; yet it is probably safe to predict that the Canadian transport system will ... continue to be as irrationally priced, and consequently over-expanded, in the future as in the past (Bird 1976, 92).

Geqq o kuvu"egtvckn {" j cxg"pq"enck o "vq"dg"rtqr j gvuc"uq o gvk o gu." j q y g x g t." y g" o c {" i gv"kv" tk i j v0" Cu"ugxgtcn" o clqt"uwfkgu"qh" j q y "vq" ĩpcpeg" t g i kqpcn" rwdnke" vtcpukv" kp" Ontario have again underlined, no obvi5tto be

In Canada, the British Columbia provincial government held a referendum in Metro Vancouver to gain support for a 0.5 percent increase to the provincial sales tax in Metro Vancouver to be dedicated to a transportation and transit plan put forth d{"v j g" o c { q t u u " e q w p e k n 0 " V j g " t g u w n v u " * 8 3 0 9 " r g t e g p v " P q . " 5 : 0 6 " r g t e g p v " [g u + . " c n v j q w i j " p q " f q w d v " k p " r c t v " t g E g e v k p i " v j g " h c k w t g " q h " v j g " r t q x k p e k c n " i q x g t p o g p v " v q " r t g u g p v " v j g " Yes case clearly or well (Mason 2015), show the lack of support for tax increases to pay for transit in this country. Many who live in urban areas appear to want more and better transit, but neither they nor anyone else appear willing to pay for it.

On the other hand, at least some of the proposals in the various reports that have d g g p " t g e g p v n { " e q p u k f g t g f " k p " Q p v c t k q . " c u " u w o o c t k | g f " k p " V c d n g " 6 0 3 . " e c p . " c u " y g " u j q y . " be read as demonstrating that people are aware not only of the linkage between revenue and expenditure but also to some extent of the potential effects of pricing. At some level, we recognize that as a community we must pay for what we get, even if we seldom agree on precisely who should get what and who should pay for what. Unfortunately, as we discuss below, the Ontario case also suggests strongly that decisions on such matters—both on what is suggested and what is seriously considered—continue to be made essentially on other grounds, even though it is not always clear exactly what those grounds are.⁹

The Greater Toronto and Hamilton Area (GTHA) contains about seven million people—half the population of the Province of Ontario. The region encompasses two single-tier cities (Toronto and Hamilton) and four regional governments with twenty-four lower-tier cities, towns, and townships. Each government is responsible for local public transit, as well as most roads and highways within its boundaries. The provincial government is responsible for major highways (except for one p r i x c v g n { " q y p g f " j k i j y c { " I p c p e g f " d { " x g j k e n g " w u c i g " h g g u + 0 " I Q " V t c p u k v " k u " c " t g i k q p c n " public transit service for the GTHA; the Toronto Transit Commission (TTC) in the City of Toronto is the largest local transit system in the region.¹⁰

9. We do not discuss here one of the principal problems in rationally funding and pricing public transit—the extent to which much of the use of roads by private vehicles is subsidized—in part because this issue has never really been discussed sensibly in Canada in the context of the regional transport problem. Moreover, whatever the facts may be, experience in Toronto in recent years (see note 21) suggests that taxing people's cars may perhaps be even more politically toxic than taxing their houses. More optimistically, as Duncan et al. * 4 2 3 6 + " j c x g " t g e g p v n { " u w i i g u v g f . " r g q r n g u u " c v k w f g u " q p " u w e j " o c v g t u " o c { " e j c p i g " c u " v j g { " come to understand better how the real costs associated with underpriced road use may affect their own well-being. For a recent Canadian review of attitudes to road pricing, suggesting that such understanding may be increasing, see Kitchen and Lindsey (2013).

10. GO recovers 80 to 85 percent of its operating revenue from the fare box, and the provincial government subsidizes the remaining operating costs. The province is also responsible for the base capital funding for rehabilitation and replacement and provides funding for capital costs associated with growth and expansion. Contributions are also made by

In 2006, in response to increasing concern about the growing negative impact of congestion on the economy, the environment, and the quality of life in the region, the provincial government created a regional transit agency now known as

Table 4.1: Recommendations for Transit Funding in the GTHA – An Overview of Selected Reports **Table 4.1:**

Table 4.2.1: Distribution of Costs and Benefits of Alternative Revenue Tools for Public Transit

Revenue Tool	Description	Responsibility for Levying Tax/Charge	Who Pays?	" Y j q" Dpgg t vuA" Cp f" Qv j g t" k o r ceu
Main Revenue Tools Proposed by Metrolinx				
Sales tax	Piggyback on provincial sales tax	Province would levy and collect tax	Residents, commuters, businesses, visitors	P g k i j d q w t i p i " l w t i u f i e k q p u" d g p g t" v" h t q o" cross border shopping, work and business location decisions; no impact on travel behaviour
Fuel tax	Piggyback on provincial fuel tax	Municipalities/regions could levy surcharge on provincial tax; province collects tax	Drivers	P g k i j d q w t i p i " l w t i u f i e k q p u" d g p g t" v" h t q o" cross border fuel purchases; reduction in xg j k e n g" w i g" d g p g t" v u" t g u k f g p u" s t g f w e g f" GHG emissions)
Business				

Table 4.2.2: Distribution of Costs and Benefits of Alternative Revenue Tools for Public Transit

...continued

Table 4.2.3: Distribution of Costs and Benefits of Alternative Revenue Tools for Public Transit

...continued

Table 4.2.4: Distribution of Costs and Benefits of Alternative Revenue Tools for Public Transit

Revenue Tool	Description	Responsibility for Levying Tax/Charge	Who Pays?	Impacts
Street parking levy	Charge based on time parked	Municipalities levy and collect user fee	Drivers	Reduced congestion while drivers look for parking spaces
Corporate income tax	Piggyback onto provincial corporate income tax	Province would levy and collect the tax	Corporations	Neighbouring provinces; no impact on travel behaviour
Increase in property tax	Tax on assessed value of residential and non-residential property	Municipalities would levy and collect the tax	Residential tax on property owners/tenants; business tax on owners, tenants, consumers in taxing jurisdiction and other jurisdictions (tax exporting)	Potential reduction in density of development
Payroll tax	Tax on employees	Province	Employers and employees	No impact on transportation or land use; potential impact on jobs and the economy
Vehicle kilometres travelled (VKT)	Fee system based on vehicle kilometres travelled	Province or Metrolinx	Drivers	Reduces number of trips at system for drivers
Federal funding	Federal transfer to province or municipal governments	Federal government would use its tax revenues to pay for regional transit	Taxpayers across Canada	Drivers and transit users in the region; no impact on travel behaviour

proposal administratively feasible, it is far from satisfying any reasonable “user r c { ÷ "tcvkqpcng0"Kvu" o ckp" xktvvg"ku"cr rctgpvn { "rqnkvkecn" dgecwug"vjg"rtqxkpekcn" i qx-ernment would be responsible for increasing the sales tax rate, local politicians would be off the hook.

The fuel tax has a similar political rationale—since it is a provincial tax, provincial rather than local politicians would be seen as responsible—but it has a much stronger economic rationale. Increased fuel taxes provide an incentive to drivers to make use of transit and thus potentially reduce congestion and greenhouse gas emissions; in addition, some of the funding would go to improved roads.¹⁶ However, to a limited extent, some drivers may purchase fuel outside of the region.¹⁷

Vjg"ncuv"vyq"eq o rqpqpvu"qh"vjg"rtqrqgf"tgxgpwg"rcemci g. "wpnkmg"vjg"ftuv"vyq." would be the responsibility of local governments themselves.¹⁸ The rationale for the business parking levy (based on the assessed value for property tax purposes) is vjcv"dwukpquugu"dggp f v"htq o "c"dgwgt"vtcpurqtvcvkqp"u { uvg o 0"Ewtkqwun { . "vjg"rtqrqucn" seems to assume that businesses will bear the cost of the levy themselves rather than passing it on to drivers (where there is paid parking) or consumers (where parking is free). A business parking levy may result in a reduction in parking spaces and land being put to other, more economically rewarding (and therefore socially valuable) uses.

values resulting from the public investment. Development charges, however, are more likely to be passed on to new homebuyers (or back onto landowners) than to be borne by developers (Slack and Bird 1991). Regardless of their incidence, such

qtkikpcn"Ogvtqkpkz"rtqrqucnu"fkuewuugf"cdqzg.ctg"uw o o ctk|gf"kp"Vcdng"603"cpf" dtkg(E{"gxcnwcvgf"kp"Vcdng"604)²¹

Kp"cf fvkqpv"vq"vjg"fktege"cpf"kp"fktege"dgpg"l"vu"qh"cp"ko r tqxgf"vtcpurqtvcvkqp"u{u-tem, some of these tools are likely to have a positive impact on reducing automobile use (vehicle registration levy, highway tolls and high-occupancy toll (HOT) lanes, and paid parking at transit stations), reducing congestion (highway tolls and HOT lanes), and lowering GHG emissions (highway tolls and HOT lanes, and vehicle registration levy).²²

The Transit Investment Strategy Advisory Panel (2013), which was appointed to review the Metrolinx Investment Strategy, applied six principles to the evaluation qh"hwpfkpi"vqnu"uw h l ekpv"cpf"uwuwckpcdng"tgxgpwg="hcktpguu"cetquu"tg ikqu"cpf" among income groups and sectors; ease of implementation; provision of choice and encouragement of less reliance on the automobile; minimization of economic impacts and distortions; and accountability and transparency. The link between expenditures and revenues appears to be under the fairness criterion, which states vjcv"hwpfkpi"qrkqu"ujqwnf"uvtkmg"chck"dcncpeg"kp"y jke j"cm"ugevqtu"vjcv"dgpg"l"v" htq o "vtcpukv"eqpvtkdwvg"Ugevtu"ctg"fg l pgf"vq"kpenwfg"kp"fkxkfwcnu"vtcpukv"wuqtu"cu" well as drivers and businesses.

Although the panel's recommendations for a fuel tax and a sales tax (as well as increased federal funding) were similar to those of Metrolinx, it diverged from the latter on parking levies, arguing instead in favour of a corporate income tax. Vjg"rcpgn"tgeq o ogpfgf"vyq"rcemci gu"qh"qrkqu"Vjg" l tuv"qrkqp"kpenwfg"c" phased and capped increase to the gasoline and fuel taxes; a modest increase to

430" Oquv"vjg"kv g o u"nkuvf"kp"Vcdng"604"y gtg"kpenwfgf"kp"vjg"oujqtv"nkuv"qh"rqukdng"tgx- enue sources considered in Metrolinx (2013) with the curious exception of vehicle registration levies, which were presumably excluded because the City of Toronto, the only municipality in Ontario entitled to impose such a fee, had recently decided to discontinue the tax. The stated rationale for excluding such levies as well as other vehicle-related fees such as taxes on auto insurance, drivers' licences, new vehicle purchases, and parking was that such charges would provide little revenue and were not directly related to vehicle usage and thus provided no useful incentives. Additional corporate income taxes were rejected as impossible and undesirable at the regional level. The possibility of a personal income tax surcharge (which would be both technically possible and economically sensible) has apparently never been mentioned by anyone during the long discussion of regional transit l pcpkpi o kp"pvtgukvpi"eq o ogpvt{"qp"vjg"ewttgp"nq y"guvgg o"qh"vjku"qpeg"fq o kpcpv" tax in North America. Even more interesting, no one suggested even a modest increase in property taxes as a possible revenue source.

440" Y j q" y qwnf"gpf"wr"dgctkpi"vjg"cf fvkqpcn" l uecn"dwtfgp"ku"pqv"cnyc{u"engct"Vjg" incidence of the property tax, for example, is usually assumed to be on property owners in the taxing jurisdiction but it may also be borne by others, for example, to the extent that business property taxes are exported to other jurisdictions.

the general corporate income tax rate; and the earmarking (“redeployment”) of a small portion of HST revenue charged on gasoline and fuel taxes. Under the second option, there would be a phased increase to the gasoline and fuel taxes capped at an increase in the HST. The second option also included a corporate income tax increase and redeployment of the HST on gas and fuel. The panel’s recommendation on land-value capture was that Metrolinx work with municipalities and the land development industry to develop a strategy for the next wave of transit projects. local transit improvements.²³

Although most of these recommendations are not new or surprising, the panel was the only one to recommend an increase in the corporate income tax. This recommendation is curious given that corporate income taxes have fallen in major more costly for Ontario corporations to compete. Taxing mobile corporate capital to lower-taxed jurisdictions. The revenue potential of corporate income taxes is also variable. Taxes based on a mobile tax base are not good candidates for local taxation (Kitchen and Slack 2013).

The Toronto Region Board of Trade highlighted the need ~~for~~ (ETEMC /Span81880051

Greater Toronto CivicAction held a forum in April 2013 with civic leaders from across the GTHA. In a report summarizing the feedback, it suggested that any new revenue tools be earmarked for transportation and that a “basket of sources,” including from a better transportation system (drivers, cyclists, pedestrians, and transit users throughout the region), the report recommended that everyone should be part of the solution—perhaps a nod to Wicksell? The authors also recommended transparency and accountability (Greater Toronto CivicAction Alliance 2013). Delegates to the

Vq'dg"uweeguuhwn."ncpf"xcnwgu"o wuv"kpetgcug"uwhtkpgvn{"vq"igpgtcvg"vjg"rtgfkevgf" tax revenues needed for the investment.²⁸ If the increase in land values is not sufficient to cover the investment, the increase must be made up from higher property taxes—always unpopular politically—or from increased borrowing. Moreover, since land use and transportation planning are not coordinated together on a regional basis in the GTHA, there is no guarantee that the necessary investments will actually occur.

SUMMING UP

The transit system requires a significant amount of investment in infrastructure on a full cost recovery basis because the system is in competition with the generally underpriced road system. To compound the problem, the road system is itself the critical substantial “feeder” to the transit system for most people in the region. If one does not tackle road pricing properly, it is simply

of services at least cost. Advances in technology have made it much easier for cities to impose such user fees as road tolls, transit fares, and parking charges. In Ontario, toll roads to be charged according to location and time of day. In San Francisco, smart meters that allow it to charge variable rates, record parking use and duration through sensors, and transmit the data to a central collection system.

Although many citizens, in Canada, as elsewhere, appear to be not all that happy care only about results and not processes, but outcomes depend as much or more on the way in which policies are decided as on the policies themselves, regardless inherited from the past and shaped in part by what was then technologically feasible. Now, however, it is technologically feasible for everyone to be able to vote on anything at any time—if we want to follow this path. There may be good reasons why we should not do so and should instead stick with the tried and true systems we have. But there are also bad reasons for doing so, including what seems to be the deep distrust of many in the elite with respect to the ability of ordinary people to decide what is best for themselves.

Some seem to think that if people are allowed to decide important things—like public policies—they will usually act emotionally, irrationally, and against their own long-term interests. It may well be true that people are and will remain rationally ignorant of most public policy issues. It may also be true that few are willing to put in the hard work needed to make real power-sharing worthwhile and that the process might—despite technological advances that allow us both to generate the needed information and to make it easily available to all relatively cheaply—turn Certainly, more widespread and direct political participation, like more transparency and may perhaps bring to the surface fundamental disagreements on norms, thus and more redistribution—or the opposite. There are, as there have always been, many reasons for being cautious about increasing local democracy.

Winston Churchill once said that democracy may be the worst of all governments except for all the rest. Much the same may perhaps be said of more participatory democracy, especially at the local level where introducing much stronger market elements than are now present in most countries is now technologically feasible as well as economically desirable. Sharing power is always a scary exercise—especially for those who now have the power—but perhaps the time has come to fool born every minute, implying that people are best seen as suckers to be fooled

qt"ujggr"vq"dg"Ëgggef."qt"cv"ngcuv"ngfA"Qt"vjg"qpg"yjq"uckf" {qw"ecp"hqqn"cmn"qh"vjg" people some of the time and some of the people all of the time, but you cannot fool all of the people all of the time?⁵⁵ No one has the answer to such questions, but vj kpmkpi"cdqvw"tgutvewwtkpi"nqecn"iqxgtp"ogpv"İpcpeg"vguvu"vjg"fgitgg"cpf"fcpi gt" qh"nqecn"hqknkuj pguu"kp"yc{u"vj"cv"õ"rtqkfgf"vjg"Ykemugnkp"Eqppgevkkp"ku"İton{ " in place—will not cause undue harm to innocent bystanders.

Vjg"dcuke"rtqdnq"o"ykvj"cfqrkpi"c"oqtg"Ykemugnkp"cr rtqcej"vq"İpcpeki" transit or anything else is that almost no one wants to hear such unpleasant truths as that users should pay or that redistribution through mispricing local public services is almost always a bad idea.⁵⁶ It is not easy to think of how to sweeten uwej"dcf"pgyu"uwİekgpvn{"vq"ocmg"kv"rqnkvecn{"rcncvcdngl" Pqpgvjnguu."kh"nqecn" iqxgtp"ogpv"İpcpegu"ctg"gxg"vq"oqxg"kp"vjku"fkgtgevkkp."uq"ogqpg"owuv"dg"ykknkpi" and able not only to deliver the bad news but to persuade people that the message is real and needs to be dealt with. Perhaps the only way to do so may be to begin cv"vjg"dgikppkpi."d{"gznckkpi"engctn{"vq"rgqrng"yjc"vjg"equvu"cpf"dgpgİvu"qh" fkhgtgpv"eqwtugu"qh"cevkkp"ctg"ykvj"tgurgev"vq"rtqdnq"ou"uwej"cu"İpcpeki"tgikqpcn" transit systems, and then, over time, not only convincing enough of them that what you say is true but also bundling such policies with whatever sweeteners may be rquukdnql"Geqqo"keu."nkmg"ogfkekpg."ecppq"dg"fqpg"kp"vjg"ncdqtcvt{"cnqpg"kv" requires close and often complicated engagement with patients and their families (policy-makers and their constituents).

Policy economists could perhaps learn some useful lessons from such protocols as the medical profession's ABCDE approach about how to tell bad news to rckgpvu<Cfxcpeg"rtgrctcvkkp="Dwknf"iqqf"tgncvkkpujkr="Eq"o"wpkecv"ygn="Fgen" empathetically with reactions; Encourage and validate emotions while correcting distortions.⁵⁵ Still, it seems unlikely that many politicians will be willing to risk their futures by being messengers who deliver to the public what most people will see as the bad news that not only do they have to pay for what they get but also, to add insult to injury, that it will in the end be good for them to do so.

550" Vjg"öucig÷"vq"yjq"o"vjg"İtuvuc{kpi"ku"cvtkdvwgf"ku"wuvcnn{"uckf"vq"dg"Rl"Vl"Dctpw"o."c" famed American showman, while the second is usually attributed to Abraham Lincoln, although in fact neither saying can be accurately attributed—unlike the remark by Churchill we cited earlier, which is discussed in depth by Lindert (2003).

560" Vjg"tgfkuvtkdwwkpv"vjcv"tguwvnu"htq"o"nqygt"vtcpukv"htgu"ht"ugpkqtu."hqt"gzc"orng."rtq-vides an implicit subsidy for wealthier seniors (Kitchen 2015). Unfortunately, as is always vjg"ecug."qpeg"iqxgtp"ogpv"guvcdnkuj"cp"kpghİekgpv"rtkekpi"uvtvewwtg" *hqt"cp{"tgcqup+"kv"ku" kpxctkcdn{"gzeggfkin{"fkhİewwv"vq"ejcpi"gdgecvug"vjg"nqugtu"ykn"rtqgvu"cpf"vjg"ykppgtu"õ" society at large—is unlikely to notice any gains.

570" Vjku"ku"c"unki"jv"o"qfİekcvkkp"qh"c"rtqvqeqn"uw"i"iguvf"d{"Tcdqy"cpf"OeRjgg"3; ; ; +0

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A FISCAL FEDERALISM FRAMEWORK FOR FINANCING INFRASTRUCTURE

Robin Boadway and Harry Kitchen

Epcfc"ku"cnng igf"vq"jcxg"c"ugtkquw"kphtcuvtwewwtg"fgtekv"Vjg"rtgekug"ogcplpi"qh" this contention is not easy to specify, but conceptually it suggests that the existing level of infrastructure falls short of some benchmark optimum.¹ Vjku"fgtekv"jcu" vyq"fkogpukqu<"swcnkv{"cpf"swcpkv{0"Vjg"gzkuvkpi"uvqem"qh"kphtcuvtwewwtg"oc{"dg" of low *quality* because it has been allowed to deteriorate and needs to be replaced or upgraded. The *quantity*"qh"kphtcuvtwewwtg"oc{"dg"fgtekpv"vq"vjg"gzvgpv"vjcv"kv" has not kept pace with the growth of population and of the economy, and with the shift in population from rural to urban areas and among regions. Both dimen- ukqu"qh"kphtcuvtwewwtg"fgtekv"ctg"nkmg{"vq"dg"vtwg"vq"uqog"gzvgpv."dwv"yg"ctg"pqv" certain, because there are no recent and reliable data on capital spending by level of government in Canada and how it has changed over the past few years.² Given this lack of information, it is an open question as to how serious the infrastructure fgtekv"cevwcm{"ku0"

The notion of an ideal amount of infrastructure is necessarily vague, and relying on estimates compiled by stakeholders like the Federation of Canadian Municipalities (FCM), provincial associations of municipalities, municipal administrators, or provincial premiers can be problematic, given that their purpose

³⁰ C"rtkqt"swguvkp"ku"yjc"fq"yg"ogcpd{"kphtcuvtwewwtgA"Yg"vcmg"jgtg"cp"gzrcpukxg" view to include virtually all forms of public capital, including capital used to provide public services like hospitals, schools, post-secondary institutions, libraries, sidewalks, water rwtktekvkp."cpf"ugycig"fkurqucn"heeknkkgu="erlkvcn"rtqkxfgf"d{"vjg"rwdnke"ugevqt"hqt"vjg"wug" of the private sector, like transportation and communications facilities; and capital used to provide public goods, like environmental control investments, defence equipment, courts, and prisons.

2. Statistics Canada is expected to release data in November 2015 on capital spending d{"ngxgn"qh"iqxgtpogpv"ht"vjg"rgtkqf"422:6340

ku"rctvn{"vq"gnkekv"İpcpekcñ"uwrrqtv"htqo"jki jgt"ngxgnu"qh"iqxgtpogp⁰³ There are some objective indicators of shortfalls, such as rates of congestion on the roads (Dachis 2013), disruptions on the railways, overcrowded classrooms and hospitals, eqpvcokpcygf"ftkpmkpi"ycvgt."cpf"İpcf gswcvg"Çqqf"rtqvgevkqp⁰"Cu"ygnn."v jgtg"ku"uqog" gxf gpeg"uwi iguvkpi"uki pk İecpv"geqqp oke"dgpg İvu"htqo "İphtcuvtwewwtg"urgpfkpi⁰"Hqt" example, a recent Conference Board of Canada report (2013) undertook a detailed examination of the impact of infrastructure spending on job creation and found that for every \$1.0 billion in infrastructure spending, 16,700 jobs were supported for one year. These jobs were not only in construction but spilled over into manufacturing, dwukpguu"ugtxkegu."İtcpurqtvcvkqp"cpf"İpcpekcñ/ugevqt"gorıq{ogp⁰"V jg"ucog"İgrqtv" guvkocvgf"vjcv"İqt"İxgt{"&302"dknkqp"İk"urgpfkpi."İFR"yqwnf"İg"İqqvvgf"İ{"&3036" dknkqp."İguwnvkpi"İk"c"o wıvkrıngt"İhhgev"qh"3036⁰"Qv jgt"ıvwfkgu"İcxg"ıjıyp"İk o kİct" İhhgevu."ykvj"İuvkocvgf" O

The federal government has legislative responsibility for the postal service, ship-

revenues, reserves (accumulated from development charges, capital cost charges, and so on, and a fraction of annual property taxes that are often collected and deposited in capital accounts), grants, and borrowing. The only long-term borrowing that municipalities are permitted to undertake is for infrastructure or capital projects, and this borrowing is tightly controlled by provincial legislation. This legislation, with some variation across the country, generally includes one or more requirements: requiring prior approval by provincial authorities; restricting annual debt servicing costs to an upper limit percentage of municipal own-source revenues; restricting the amount of debt to an upper-limit percentage of assessed property values; and permitting (or requiring) borrowing from a provincially controlled “municipal fund.” In essence, municipalities have little room to manoeuvre when it comes to infrastructure spending (Amborski 2013).

The decentralized structure of infrastructure spending is in the context of a system where provincial and municipal governments are relatively modest by international standards. The federal government collects more general revenues than it needs for its program spending and transfers the excess to the provinces. About 26 percent of federal program spending consists of transfers to the provinces (and territories). The provinces in turn obtain, on average, 46 percent of their program spending consists of transfers to municipalities. Total transfers from provinces to municipalities are about 80 percent of transfers that provinces receive from the federal government (Canadian Tax Foundation, 2013, Table A2). Although there is considerable variation across the country, a relatively small fraction of provincial program spending is in the form of conditional grants. Behind these averages, however, there is considerable variation in the extent of provincial transfers to municipalities.

Provincial and municipal governments are very important for provincial and municipal governments. In principle, the federal government and the provinces have unrestricted taxing and borrowing powers. In practice, the extent of decentralization of (non-resource) taxing power to the provinces is constrained by several considerations. The level of reliance of the provinces on own-source revenues depends on the division of tax room of major tax bases between the federal and provincial governments. This division, in turn, is the outcome of ongoing decisions about tax rates by both levels of government and transfers from the federal government. The evolution of program-spending requirements at the federal and provincial levels is also important, particularly the tendency for provincial-spending increases to outpace those at the federal level. Provincial governments tend to view the federal government as taking a leadership role in determining the extent to which provinces must rely on own-source revenues.

In evaluating the exercise of this leadership role, some important considerations apply. Further decentralization of revenue-raising could jeopardize the harmonization of income, consumption, and value-added tax systems. More decentralization also leads to more horizontal imbalance, which strains the equalization system, especially given the imbalance in long-term insurance against regional shocks, which arguably is a main long-run role of equalizing federal transfers of all types. Federal-provincial transfers play a role in their own right apart from equalization, including the use of the spending

provision of infrastructure?

Federal Role in Financing Provincial Infrastructure

Starting with the federal-provincial scenario, there are a number of potential reasons for federal involvement in provincial infrastructure provision. The classic argument is that provincial infrastructure spending has spillover effects on neigh-

Provincial Role in Financing Municipal Infrastructure

What is the provincial government's role in municipal infrastructure provision? This ukvwcvkqp"fkhhgtu"uk i pk l ecpvn{ "htq o "v j g" tqng"qh"v j g"hgfgtcn" i qxgtp o gpv0"Wpnkmg"v j g" provinces, municipal governments have limited access to own-source revenues and fgdv" l pcpeg"cp f"ctg."kp" o quv"ecugu."uwdlgev"vq"qxgtuki j v"d{"v j g" r tqxkpeg"qp" o clqt" infrastructure projects. The actual delivery of local infrastructure is executed by municipal governments, as the principle of subsidiarity would recommend, but they

and that the tax burden per household has fallen over this time (Slack and Cote 4236+. A more recently published study on the Greater Toronto Area (Tassonyi, Bird, and Slack 2015) concluded that there is room to increase property taxes in most municipalities in the GTA. A quick calculation of effective tax rates (property taxes as a percentage of the assessment base) for the ten largest cities in Ontario over the past four years shows a slight decrease in the overall effective tax rate in all but one city.⁹ There is no question that the property tax could generate more simply raise the tax rate. Furthermore, there is no evidence to suggest that raising

The property tax is not foolproof, however. One can argue that not only is it relied on too heavily in Canada¹⁰

Given these considerations, arguably the main issue facing municipalities is a

Provinces make transfers to municipalities, but the question is whether they are adequate in size and suitable in structure. Unlike federal-provincial transfers, provincial-municipal transfers are not as systematically equalizing in all provinces. The consequence is that municipalities with the most needs and costs are generally infrastructure needs, such as those arising in the larger metropolitan areas. To the

differential demand in peak and non-peak periods, when second-best circum-

ISSUES WITH THE CURRENT ARRANGEMENTS FOR FINANCING INFRASTRUCTURE

The discussion in the previous section suggests some key issues that should be addressed. The first is the adequacy of the current system for addressing ongoing and future infrastructure needs. As we have mentioned, the federal government already provides virtually unconditional and fungible equalization and social transfers to provinces that can be used both for their own infrastructure spending and for supporting municipal infrastructure spending. As mentioned earlier, there are also the NBCF and the GTF fund that earmark federal transfers to infrastructure, much of it purely local in nature. Given all of these, are there arguments for a permanent and substantial infrastructure grant to the provinces and municipalities?

Some might argue that equalization and CHT/CST are only based on revenue capacity and do not take account of infrastructure spending or other needs. However, national average revenue-raising capacity, which determines the aggregate size of equalization, is based on national average revenue-raising capacity, which determines the aggregate size of infrastructure spending. If one took needs and/or costs into account in calculating equalization, this would not affect the total equalization amount, although it would affect the distribution of equalization among provinces. Similarly, CHT/CST transfers are unconditional and are meant to support both current and capital spending on health, social assistance, and post-secondary education. The upshot is that a case for an additional infrastructure grant cannot be based on the idea that infrastructure spending is not taken into account in equalization/CHT/CST.

There may still be an issue of whether total transfers to the provinces are adequate, given their share of tax room relative to their spending obligations. The issue is whether the total transfers to the provinces are adequate, given their share of tax room relative to their spending obligations. In principle both provincial and federal levels of government have full discretion

kp"ewttgpn"ektew o uvcpegu."vjg"rtqxlpegu"ctg" f uecnn {"eqpuvtckpgf" dgecwug"qh"vjg"tcvg" qh"i tqy vj "kp"urgpfkpi"qp"j gcnvj."gfwecvkqp"cpf"uqekcn"ugtxkegu." y jkej"ku"tgEgevgf" in a higher growth rate in the debt-to-GDP ratio when compared with that of the federal government. At the same time, the federal government has reduced tax rates, leaving more tax room for the provinces. The provinces could increase tax rates and deal with any vertical imbalance they face. The economic question is whether it is desirable to shift tax room to the provinces as opposed to increasing federal transfers as a way to address an imbalance. Opinions differ on that. On the one hand, requiring provinces and municipalities to meet incremental expenditure needs by increasing own-source revenue entails an element of political accountability that might be missing if transfers were used. On the other hand, further decentralization qh"vcz"tqq o "gzcegt dcvgu"j qtk|qpvcn"ko dncpeg."cpf" o cmgu"kv" o qtg" fkh f ewnv" hqt"vjg" federal government to meet its equalization commitment. It also runs the risk of threatening the sustainability of tax harmonization. Another sometimes overlooked consequence of decentralized revenue-raising is that it reduces the ability of the federation to insure against regional shocks. As is evident nowadays, this capacity distinguishes a federation from an economic union such as the EU.

These arguments might suggest some balance of own responsibility and transfers to meet vertical imbalance problems. For our purposes, the fact that provincial i qxgtp o gpvu" cpf" vj gkt" o wpke r cnkvkgu" ctg" f uecnn {"eqpuvtckpgf" o c {" o cmg"kv" rct- vkewncn {" fkh f ewnv"vq" o gg v"kphtcuvtwewwtg" pgg fu"kh"vjg {"ctg"etqy f gf"qww" d {" i tqy kpi" expenditures on health and other public services. That does not necessarily mean that cp"kphtcuvtwewwtg/urgek f e" i tcpv"ku"ecmngf" hqt"cu"qr rqugf"vq"tg o gf {"kpi" cp {"xgtvkecn" imbalance by a mix of federal transfers and own-source revenues.

The existence of horizontal imbalance also results in particular strains on infrastructure spending for the have-not provinces. Because the equalization system only applies to them and includes only half of resource revenues, the provinces with cdqxg/cxgtc i g" f uecn"ecrcek v {" j cxg" c"uk i pk f ecpv" f uecn" c f xcpvc i g"qxgt"vjg" j cxg/pqv" provinces. This disparity constrains the ability of the latter to meet infrastructure urgpfkpi" d {"kpetgcukpi" qyp/uqwtg"tgxgpwgu0"kv" y qwnf" dg" fkh f ewnv"vq" c f ftguu"vjku"

projects, communications, environmental protection and education institutions come to be provided by the provinces, since they are closer to the ground and better able to know local needs, to solicit contracts, and to monitor the investment. In such a way to encourage accountability.

Another argument for federal support or encouragement is that there might be a systematic tendency for lower-level governments to under-provide infrastructure. While tax competition puts downward pressure on tax rates on mobile tax bases, the opposite is the case for infrastructure. To the extent that infrastructure attracts businesses from other jurisdictions, there is a negative effect on the jurisdictions of businesses relocating (i.e., the loss of tax revenue). Resource-rich provinces provide a good example of that. Alberta explicitly tries to attract businesses not just with low tax rates but also with public infrastructure. Thus, there is a concern that infrastructure provision is an over-stated concern.

In this case, the allocation of projects would be based on the joint commitment of Section 36(1). In this case, the allocation of projects would be based on the joint commitment of Section 36(1). (see, for example, Dodge 60400#005200530035, n Lang (en-CA)/MCID 227 BDC BT/C2_030)

Vjgtg"ku"nkvnng"lwukf"ecvkqp"ht"uwej"chgfgtcn"pkvkcxg"crctv"htqo"vjg"kgfc"vjcv" infrastructure supports economic growth, which could be viewed as a "national rwrqg0:-"Vjg"kuuwg"ku"y jgvjgt"vjgtg"pggfu"vq"dg"cp"kphtcvtwewwtg/urgekfe"itcpv" over and above the all-purpose grants that already exist. Provincial governments already receive unconditional transfers that can be used for capital spending as they ugg"fv."cpf"vjg{"cnuq"jcxg"ceegu"vq"vjg"ucog"tgxgpwg"uqwtegu"cu"vjg"hgfgtcn"iqx- ernment. An infrastructure grant could simply crowd out provincial infrastructure spending that would otherwise occur, or that would occur if the provinces had uwhf"ekgpv"tgxgpwg"htqo"qyp"uqwtegu"cpf"igpgtcn"vtcpuhgtu0"Yg"jcxg"uwii"iguvf"vjcv" there might be a vertical imbalance in the sense that federal transfers are too small given the share of revenues (e.g., income tax) they currently claim, a proposition that is evidenced by the fact that provincial debt/GDP is rising while that of the federal government is falling. Moreover, because provincial program spending is rising more rapidly than that of the feds because of health care especially, infrastructure is being crowded out along with other programs. While this assessment may be valid, it does not follow that the response is to make larger infrastructure grants. One could either increase general transfers or adjust the tax room, or some combination of the two as appropriate.

Different issues arise with municipal infrastructure. As mentioned above, rtdngou"qh"xgtvkecn"ko dncpeg"tkug"wpkswg"rtdngou"ht"fpcekp"i"o wpkekr"cn" capital projects, especially given the constraints that they face on borrowing and their limited access to broad tax bases. Increasing own revenues to meet spending fgf"ekgpeku"ku"oqtg"fkf"ewnv"htq"o wpkekr"cnkvkgu"ukpeg"vjg{"tgn{"jgcxkn{"qp"rtqrgtv{" taxes (which are already intensively burdened, by international standards), and must get provincial approval for new revenue sources. Moreover, as a proportion of their spending, infrastructure is much more important for municipalities than for rtqkpegu."cpf"ctiwcdn{"o wpkekr"cn"kphtcvtwewwtg"jcu"uk"ipkfe"cpv"urknnqxtg"dgpg"fv" vjcv"okij"yctcpv"rtqkpekr"cn"eqpfkvkqpcn"itcpvu0"Owpkekr"cnkvkgu"cnuq"hceg"uk"ipkfe"cpv" horizontal imbalances within provinces because of inadequate equalization systems.

If there is need for more infrastructure investment at the municipal level, what ku"vjg"dguv"yc{"vq"hwpf"kvA" I kxgp"vjcv"kphtcvtwewwtg"urgpfp"i"dgpg"fv"hwvwtg" generations and that municipalities have borrowing capacity, borrowing makes considerable economic sense. Currently, every province has an organized authority or agency that is responsible for assisting most, if not all, municipalities in issuing long-term debentures that are subsequently sold by investment dealers. In the western provinces, Winnipeg, Regina, Saskatoon, Edmonton, Calgary and Vancouver issue debt in their own name rather than through a provincial agency. Province-wide agencies¹⁷

provinces as they do in Quebec and the eastern provinces. In Ontario, Infrastructure Ontario has been set up as a crown corporation with a mandate to manage large infrastructure projects. It operates like an infrastructure bank, offering short-term and long-term loans for eligible public-sector infrastructure projects at affordable

tcvgu0"kv"rtqxfgu"ceeguu"vq"ecrkvcn"o ctmgv" fpcpekpi"ykvjqwv"hggu"qt"eq o o kuukqpu0"

The length of the loan may be structured to match the life of the asset; hence there

ku"pq"pggf"vq"tg fpcpeg"qxgt"vjg"nkhg"qh"vjg"nqcp0"Nqcpu" o c {"dg"cxckncdng"hqt"cp {"

Vj tgg'qv jgt' uqwtegu'qh" ĩ pcepg'hqt" o wpkekr cn'kphtcuvtwevwtg'ecp'dg'eqpv g o rncv g f0" Additional tax sources could be made available to municipalities, at least large ones (Kitchen 2015b). For example, they could piggyback onto the provincial personal kpeq o g'vcz'qt' qpvq'c" r tqxkpekc n'vcz'dcug'v j cv'ku" o qtg'pcttq y n{ "fg ĩ pgf. "uwej "cu"vj g" provincial gas tax, with revenues dedicated to roads and transit. While this would etgcvg" o qtg" ĩ uecn"ecrcekv{ "hqt"uq o g" o wpkekr cnkvkgu. "kv" y qwn f" cnuq" tguwnv"kp"uq o g" ĩ uecn"k o dcncpeg' dg v y ggp"nct i g'cpf"u o c n n'ekvkgu0"Kp"rtkpekr ng. "v j ku"ncvgt"kuuwg"eqwn f" be addressed by provincial-municipal equalization, although this would not be straightforward.

A second source of revenue would be to expand and improve user fees. Current rtcevkeg'kp'ugvvpki "wugt'hgg u'htgswgpvn{ "fgxkcvgu'htq o'v j cv"y j ke j "ku'hckt. "gh ĩ ekgpv'cpf" accountable. The tendency is to set fees to generate revenue rather than to allocate tguqwtegu"vq"vj gkt" o quv"gh ĩ ekgpv'wug0"Hcknwtg'vq"kpvtqfweg'gh ĩ ekgepe{ "eqpukfgtcvkqpu" (price equals marginal cost) into the pricing structure or to entertain in any serious fashion suggestions for expanding the role for user fees has been defended on grounds that they are regressive. This claim, however, is about as relevant as the claim that milk prices and movie tickets are regressive. This is not to imply that income distribution issues are unimportant. Clearly, they are very important, but they should be handled through income distribution programs that target the poor rather than by changing or distorting prices, a practice from which the rich htgswgpvn{ "dggp ĩ v" o qtg"v j cp"v j g" rqqtl)

Failure to price properly has created a good deal of unplanned and implicit income redistribution, much of which would be unacceptable if it were made explicit. Hqt"gzc o r ng. "v j g"v gpf gpe{ "vq"ejct i g" c" ĩ zgf" r tkeg'hqt" y cvgt. "tg i ct fnguu"qh" swcpkv{ "

accountability issues associated with the federal government dealing with municipalities would be immense (unless the transfers were unconditional). The federal government is not as well placed as the provinces for determining municipal needs.

Vq"vjg"gzvgp"vjcv"vjgtg"ku"o wpkekr cn"kphtcuvtwevwtg"fg fkv"*y jkej"ku"wpengct+."cpf"
vq"vjg"gzvgp"vjcv"vjg"rtqkpegu"ctg" f uecm{"eqpvtckpgf."vjgtg"oc{"dg"cxgtvkecn"

spending. Moreover, both equalization and social transfers are fully fungible, and are intended to be used for current and capital spending. Similarly, most municipal kphctcvtwevwtg" r tqlgevu" ecp" dg" fpcpegf" d{ "qyp/uvwteg" tggpwwgu." dqttqykp i." cpf" provincial transfers.

Vq"vjg"gzvpp"vjcv"vjggtg"ku" c" r t q x k p e c n" c p f l q t" o w p k e r c n" k p h t c u v t w e v w t g" f g f e k v." v j k u" t g f e g e v u" c" x g t v k e c n" k o d n c p e g = " v j c v" k u." i k x g p" v j g" u r g p f k p i" t g u r q p u k d k n k v k g u" q h" c n n" n g x g n u" q h" i q x g t p o g p v." k p v g t i q x g t p o g p v c n" v t c p u h g t u" c t g" k p u w h f e k g p v" i k x g p" v j g" y c f" k p" y j k e j" v c z" t q q o" k u" f k x k f g f" d g v y g g p" v j g" n g x g n u" q h" i q x g t p o g p v" C" f g f e k g p e { " k p" k p h t c u v t w e v w t g" k p f k e c v g u" v k i j v" f u e c n" e q p u v t c k p v u" c p f" u w d / p c v k q p c n" f g d v" n g x g n u" t c v j g t" than a choice to forego infrastructure spending in favour of other types of spend- k p i 0" C" x g t v k e c n" f u e c n" k o d n c p e g" e c p" d g u v" d g" c f f t g u u g f" d { " u q o g" e q o d k p c v k q p" q h" unconditional transfers from the federal government to the provinces, and from the provinces to municipalities, and by making more revenue room available to lower levels of governments. Addressing this imbalance seems to be particularly t g n x c p v" h q t" o w p k e r c n" k p h t c u v t w e v w t g" f p c p e k p i." y j k e j" k u" r c t v k c n n { " e q p u v t c k p g f" d { " c" shortage of own-source revenues.

Kp"vjg"ecug"qh"hgfgtcn/r t q x k p e c n" v t c p u h g t u." y j k n g" k v" k u" f k h f e w n v" v q" u r g e k h { " y k v j" c p { " precision the ideal level of transfers, a couple of points can be made. One is that the equalization system is compromised by not equalizing down provinces with c d q x g / c x g t c i g" f u e c n" e c r c e k v { ." c p f" d { " v j g" h c e v" v j c v" v j g" h g f g t c n" i q x g t p o g p v" f q g u" not have access to natural resource revenues, which constitute the main source of j q t k | q p v c n" k o d n c p e g 0" C m j q w i j" k v" k u" f k h f e w n v" v q" f g c n" y k v j" v j g u g" r t q d n g o u" c f g s w c y g n { ." several measures could mitigate their impact. First, the GDP cap could be eliminated. It serves simply to reduce the amount of equalization available to have-not provinces (and the related cost to the federal government). Second, although the CHT/CST system is generally equalizing, it too does not equalize provincial natural t g u q w t e g / t g x g p w g" e c r c e k v k g u." i k x g p" v j c v" v j g" u q w t e g" q h" f p c p e k p i" k u" h g f g t c n" i g p g t c n" revenues. This problem could be addressed by conditioning social transfers on

constraints faced by the provinces. At the same time, additional sources of revenues for municipal governments, especially large cities or metropolitan areas, should be permitted. Such sources include an improved and expanded range of user fees and earmarked user-fee-type taxes for things like roads, especially in the context of income taxes could also be permitted, at least for larger cities.

jurisdictions with the most need and least revenue capacity. They will be particularly them at a disadvantage relative to other communities. This problem calls for expansion of a needs-based approach than that of the federal-provincial equalization system.

Finally, there may well be cases where there is a national interest in provincial or municipal infrastructure investments. This might be the case where such as national transportation projects or projects that improve investment in human capital or innovation, or equity in the social union, such as by improving equality of opportunity or regional development. Identifying infrastructure projects that are of national importance is not an easy matter, and would have to be done on a possibly of a cost-sharing nature, than by a broad, dedicated infrastructure grant.

CONCLUDING REMARKS

There is wide-ranging agreement that both the quantity and quality of infrastructure plays a critical role in economic activity. Similarly, there is general agreement to its size and how it has been estimated. For the purposes of this paper, however, mpqy kpi "v j g" uk | g" qh" v j g" f g | e k v" ku" p q v" t g n g x c p v 0" Y j c v" ku" t g n g x c p v" ku" y j q" u j q w n f" d g" t g u r q p u k d n g" h q t" r t q x k f k p i" v j k u" k p h t c u v t w e w t g." j q y" u j q w n f" k v" d g" | p c e p e g f." c p f" y j c v" k p l e w g p e g" u j q w n f" q p g" h g x g n" q h" i q x g t p o g p v" g z g t v" q p" c p q v j g t A V j g u g" s w g u v k q p u." c n q p i" y k v j" q v j g t u." j c x g" d g g p" c f f t g u u g f" y k v j k p" v j g" | u e c n" h g f g t c n k u o" h t c o g y q t m" c u" k v" c r r n k g u" to infrastructure. The following points come out of this discussion.

First, the principle of subsidiarity supports a high degree of decentralized responsibility for the provision of infrastructure to provinces and municipalities. Second, eqpvtct {"vq" y j c v" o k i j v" d g" u w r r q u g f." h q e c n" k p h t c u v t w e w t g" | p c e p e g f" c p f" r t q x k u k q p" k u" p q v" e q p u v t c k p g f" d {" u g t k q w u" | u e c n" e q o r g v k v k q p" r t q d n g o u 0" Q p" v j g" e q p v t c t {" h q e c n" c p f" provincial governments have every reason to use infrastructure investment as a way of attracting economic activity, so they should not be reluctant to engage in it. Third, the federal government already provides largely unconditional transfers (equalization grants) to provinces. The following points come out of this discussion.

Curry, Bill. 2015a. "Canadian Cities Lobby Ottawa for Increase in Public Transit Funds." *Globe and Mail*, 30 March.

———. 2015b. "Public Transit Funding: A Dilemma." *Globe and Mail*, 13 May, B-1.

Fudge, Bill. 2012. "Public Transit Funding: A Dilemma." *Globe and Mail*, 13 May, B-1.

Dodge, David. 2012. "Strengthening the Canadian Economic Union in a Period of Fluctuating Resource Prices." Presentation to the Public Policy Forum, 25th Anniversary Lecture Series, Carleton University, Ottawa, 10 October.

Fudge, Bill. 2015. "Public Transit Funding: A Dilemma." *Globe and Mail*, 13 May, B-1.

O

Siemiatycki, Matti, and Naeem Farooqi. 2012. "Value for Money and Risk in Public-Private Partnerships."





Table 5.1: Relative Importance of Local Taxes in Selected OECD Countries, 2010

Countries (1)	Tax Sources as a Percentage of Total Local Tax Revenues				Local Taxes as a % of GDP (6)	Local Taxes as a % of GDP (7)
	Income ¹ (2)	Sales ² (3)	Property ³ *6+ (4)	Other ⁶ (5)		
Australia	0.0	0.0	100.0	0.0	1.0	3.5
Austria	83.0	9.9	37.0	13.3	1.5	3.3
Belgium	36.7	9.9	53.2	0.3	2.3	5.1
Canada	0.0	2.0	97.9	0.1	5.0	10.2
Germany	78.1	5.9	15.8	0.1	3.0	7.9
Mexico	0.3	1.7	89.0	9.0	0.2	1.2
Switzerland	6.5	1.3	36.0	0.0	6.8	15.6
United States	5.2	21.3	95.0	0.0	6.4	16.1
Unweighted average	33.2	6.5	79.0	2.9	2.6	7.9
Chile	0.0	59.7	62.0	0.0	3.0	6.2
Czech Republic	0.0	6.0	51.5	0.0	2.0	1.3
Denmark	89.0	0.1	10.8	0.1	13.3	26.7
Estonia	89.6	2.5	7.9	0.0	6.9	35.0
Finland	93.6	0.0	6.3	0.1	10.8	46.0
France	0.0	25.3	86.0	10.2	6.0	10.8
Greece	0.0	21.3	78.6	0.0	0.3	1.1
Hungary	0.0	80.0	19.8	0.2	2.5	8.0
Iceland	99.0	2.0	20.6	0.0	9.2	25.5
Ireland	0.0	0.0	100.0	0.0	0.8	3.2
Israel	0.0	6.0	95.2	0.0	2.6	7.5
Italy	25.0	26.6	10.9	37.5	6.7	37.0
Japan	6.0	3.0	30.9	1.1	7.3	25.9

...continued



Supplement 5B

A SIMPLE AND TRANSPARENT

The effective marginal equalization tax is 100 percent in the sense that increases in a locality's tax base reduces entitlements fully if the locality uses the national average tax rate, and changes in a locality's need index gives rise to offsetting need indices or their tax bases, this should not be a big problem. To the extent that incentives are a problem, it is more pronounced on the revenues than on the expenditures-equalization side. In principle, this could be addressed by equalizing revenue capacity less than fully.

The choice of types, localities, and the need indices are to some extent arbitrary and could be adjusted as time goes by.

Expenditure needs are equalized but costs are not. Whether costs should be equalized is a matter of dispute. Some have argued that costs are relevant where wage rates differ across localities. This could be addressed by adjusting entitlements by relative wage indices, although if a public-sector-wage index is used that could provide an incentive to increase wage rates.



DISTORTED INFRASTRUCTURE

Pamela Blais

The Greater Golden Horseshoe (GGH; Figure 6.1) in Southern Ontario is expected to invest \$130 billion on infrastructure in Ontario over the next decade, including for the GGH to support this growth, according to the 2015 Budget (Ontario 2015).

price systems—including “prices” set in the public sector, such as property taxes or

been long recognized in the literature (most notably by Wilbur Thompson (1968) in his article “The City as a Distorted Price System”), it has not been addressed as a critical path forward as it should be. Moreover, the mispricing under discussion here is created by government and their agencies—local, regional, provincial, and federal—which are often the very entities at the forefront of the sustainable community movement.

Places to Grow: The Growth Plan for the Greater Golden Horseshoe (Ontario 2006) is a regional plan for this growth and its supporting infrastructure. The Growth Plan is intended to optimize the use of existing and new infrastructure by

development in the urban areas also provides a focus for transit and infrastructure

investments to attract further growth. The Growth Plan designates urban growth

PRICES SHAPE URBAN FORM

Every day, Canadians make decisions about buying or renting a home and choosing consideration of location within the city (centre, inner suburb, new suburb, exurb), the characteristics of the neighbourhood (walkable and mixed use or car-oriented), and the size of the building and lot. How to travel to and from the property (bike, walk, transit, car) is also an integral part of the decision. Though many factors may come into play, in the end these are fundamentally choices regarding land use and transportation. Ultimately, these decisions, multiplied thousands and thousands of

How does mispricing occur? It is well accepted that urban form factors such as density, location, land use patterns, and neighbourhood design affect costs of many kinds. These include the hard infrastructure costs of linear and network services like roads, transit, water, sewer, electricity, gas, or cable, and the costs of services like postal delivery, snow clearance, or garbage pickup.¹ But prices don't generally

an incentive to purchase the larger lot, which under this regime of mispricing represents “great value” for the money.

Vjgug"mkp fu"qh"etquu/uwdukfkgu"kp xctkcdn{"hcxqwt"kpghf ekgpv"fgxgnqr o gpv"cv"vjg"gzr gpg"qh"ghf ekgpv"fgxgnqr o gpv"Cu"K"ujqy"kp"o {"dqm"*Perverse Cities*, the o kurtkekp i"tgnvvgf"vq"uq o g"eq o o qp"fpcekc"kp uvtw o gpvu"wpexgtgf"kp uvcpegu"qh"vjg"hqmqy kpi"v{rgu"qh"etquu/uwdukfkgu<

- Those who live on small lots subsidize those living on large lots.
- Smaller residential units subsidize larger residential units.
- Those who don't drive or drive less subsidize those who drive most.
- Land uses that generate fewer trips subsidizes uses that generate more trips.
- Those who live in less expensive-to-service areas subsidize those who live in more expensive-to-service areas.
- Those who live nearer the centre of the city subsidize those who live further from the centre.
- Urban dwellers subsidize rural dwellers.

In other words, if land uses were cars, the Smart Car owner would subsidize the Hummer owner.

This variety of mispricing stems from the use of average costs as the basis for establishing prices for urban goods and services in which, in reality, costs vary with urban form. There are several other common sources of mispricing. For example, y jkng"engctn{"jcxkpi"uk i pkf ecpv"

services directly (e.g., water, development charges); it regulates prices for other services (e.g., telecommunications and electricity) and sets property taxes and other user fees. Local governments establish the prices for a substantial component of house and commercial property prices. Other tax policies and programs affecting the prices of urban goods and services include capital gains taxes, tax rebates on new housing, gas taxes, sales taxes, infrastructure grants, income taxes, and home-

communities vary because of location within the community, the development charges should vary by location (Figure 6.3). If the costs of servicing vary because

qh" fgpkv{"v jg" fgxgnqr o gpv" e jct i gu" u j q w f" xct {" y kv j" fgpkv {" * Hk i wtg" 806+0" V j g"
uc o g" rtkpekrng" cr rnkgu" vq" v j g" r tkeg/ugvvp i "qh"qv j g" I pcpekcn" kpuvtw o gpvu" hqt" wtdcp"
goods and services. The real, direct costs associated with development choices must also be both transparent and apparent.

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Fwpecp"Cuqekcvgu0"3 ; ; ; 0"öVjg"Ugcte j "ht"Ghġekgpv"Wtdcp" I tqy vj "Rcvgtpu0:-"Vcncjcuugg<" Florida Department of Community Affairs.

Gordon, D. L. A., and M. Janzen. 2013. "Suburban Nation? Estimating the Size of Canada's Suburban Population." *Journal of Architecture and Planning Research* 52*5+3; 964420

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———0" 42370" ö4237" Qpvctkq" Dwf i gv0:-" j vvr<ll y y 0hkp0i qx0qp0eclgpldwf i gv0pvctkq budgets/2015.

Malenfant00550052005100570052001D0003>79.2 00262 B61005500528.T-0.005 Tc 0.005.008 003600#000

COST OVERRUNS ON KPHTCUVTWEVWTG"RTQLGEVU< PATTERNS, CAUSES, AND CURES

Matti Siemiatycki¹

Municipalities across Ontario are in the midst of an infrastructure building boom. After decades of underinvestment, billions of dollars are now being spent to rehabilitate existing assets and construct new transportation, water, waste, public housing, civic, and recreation facilities.

The City of Toronto, for instance, plans to allocate \$31.7 billion to social and r j { ukecn"kphtcuvtwevwtg'dgvyggp"4237"cpf"42460"kp" [qtm" Tg i kqp."v j g"v g p / { g c t" e c r k v c n" r n c p" k u" h q t g e c u v" v q" d g" & 8 0 8" d k n n k q p = " k v" k u" & 4 0 6" d k n n k q p" k p" O k u u k u c w i c." c p f" & 3 0 : 7" d k n n k q p" k p" J c o k n v q p 0" O k f / u k | g f" e k v k g u" c n u q" j c x g" u k i p k f e c p v" o w n v k / { g c t" e c r k v c n" r n c p u." y k v j" infrastructure spending over the next decade budgeted at \$1.75 billion in London cpf" & 6 5 : " o k n n k q p" k p" Y c v g t n q q 0" V j g u g" k p x g u v o g p v u" k p" v j g" r j { u k e c n" c u u g v u" q h" e k v k g u" are essential to the vitality of Ontario municipalities, as infrastructure provides the foundation upon which economic growth, environmental sustainability, and social equity and inclusion are achieved.

Hqt"v j g" n c t i g u v" c p f" j k i j g u v / r t q f n g" k p h t c u v t w e v w t g" r t q l g e v u." e q o o q p" e j c n n g p i g u" are construction cost overruns and schedule delays. "Spadina Subway Extension & 6220" q x g t" Budget" the *Toronto Star* stated in 2015.² "Mayor Apologizes for Cost

1. V j k u" e j c r v g t" y c u" f t u v" r w d n k u j g f" d { " v j g" k p u k v w v g" q p" O w p k e k r c n" H k p c p e g" c p f" I q x-

Local governments need to develop effective strategies to plan and deliver major

cost overruns is consistent with the results of the other studies of transportation megaprojects.⁷

Cost overruns are also a persistent problem on megaprojects in other sectors. Large information and technology projects that cost hundreds of millions or even billions of dollars, such as new enterprise software, management support systems, or digital customer record-keeping, are notorious for cost escalations. A 2011 survey of 100 megaprojects in the United States and Europe, the average cost overrun was 27 percent. And fully one in six IT projects had a cost overrun of 200 percent, which added hundreds of millions of dollars to the initial budget (Flyvbjerg and Budzier 2011). There was no difference in performance between Europe and the United States, or between projects undertaken by public- or private-sector organizations—they each experienced cost overruns equally. In Canada, the development of the PRESTO transit fare card by Metrolinx and of electronic health records by eHealth

was no improvement in budget accuracy over the seventy years of data that the

In the case of major global sporting events, Flyvbjerg and Allison Stewart found were higher than anticipated at the time that the bid was submitted. The average cost overrun in real terms was 179 percent for Olympic Games' host cities, higher than for other types of megaprojects (Flyvbjerg and Stewart 2012).

Studies of smaller, more routine construction and maintenance projects in the transportation sector show that cost estimates for this type of work tend to be more accurate. As three recent studies in the transportation sector found, only about half of all small road projects experienced a cost overrun, and the average escalation

It appears that while overruns still occur, cost estimates tend to be more accurate for smaller, simpler projects that can be completed over a shorter period than for

7. For a detailed literature review of transportation mega project cost overruns, see Siemiatycki 2009.

8. For studies of routine transportation projects, see Ellis et al. 2007; Odeck 2004; Bor-dat et al. 2004.

megaprojects, and for projects that involve fewer subcontractors. These routine

a consistent feature of large infrastructure project delivery, suggesting that other factors are at play.

Bent Flyvbjerg, professor of business at Oxford University and the leading expert on megaproject management, provocatively argues that the real causes of the reckless optimists who see the future with rose-tinted glasses. These forecasting fools ignore hard facts and uncertainty, betting the family silver on gambles with a very low probability of success. Liars deliberately mislead the public for private gain. “Liars deliberately mislead the public for private gain. They just to get it going.”⁹

OPTIMISM BIASES

For decades, researchers studying human behaviour have found that people are prone to “planning fallacies” or optimism biases whereby they underestimate the time and cost to complete a task. As Daniel Lovallo and Nobel-prize-winning economist Daniel Kahneman explain, “Most people are highly optimistic most of their own abilities, talents, and skills. They are quick to take personal credit for positive outcomes, while attributing failures to unexpected external events like

Taken together, the innate human condition of being over-optimistic about the outcome of future events, combined with subtle organizational pressures to accentuate the positive, leads to forecasts in which costs are chronically underestimated. However, as Flyvbjerg argues, a more cynical explanation for cost overruns points to willful misrepresentation on the part of project planners and promoters.

Strategic Misrepresentation

prestige from the delivery of a large public works project. These include politicians, bureaucrats, consultants, lawyers, construction contractors, property owners, and community residents, depending on the project. But there are few direct consequences for these participants when budget expectations are not met.

Overruns and schedule delays deemed the responsibility of government are borne by taxpayers rather than those who planned, approved, and promoted the project. When cost overruns occur, the responsibility is placed on the government rather than on those who planned, approved, and promoted the project.

This means strong incentives for proponents to strategically misrepresent initial budgets to get a project approved, funded, and started, knowing that once work begins, few projects are ever halted. Studies by Don Pickrell (1992) and Alan Altshuler (1992) for senior-level government funding have an incentive to underestimate the costs of their pet projects to make them more attractive to provincial or federal governments. Politicians and project promoters have an incentive to underestimate the costs of their preferred infrastructure plans to make them palatable to voters. And contractors competitively bidding for projects may strategically underestimate costs, knowing that once they win the job, they can drive up the price through change orders.

Scholarly articles with titles such as "When Planners Lie with Numbers" (Wachs 1993) and "Misrepresentation in Rail Transit Promotion and Evaluation" (Kain 1990) have documented how cost escalations result from a systemic pattern of wilful misinformation on the part of project proponents seeking to maximize their individual gains. Projects that get built are not "necessarily the best ones, but those projects for which proponents best succeed in conjuring a fantasy world of underestimated costs, overestimated revenues, undervalued environmental impacts, and overvalued regional development."

signed, and at substantial completion. Other data about each project would also be involved; the project delivery model (i.e., traditional procurement, public-private partnership, joint venture, etc.); major changes to scope; the causes of any cost escalations or schedule delays; measures of construction quality and safety on the job site; and any long-term construction defects.

Such evaluation systems are by no means a novel concept in Ontario municipalities, especially as they pertain to measuring vendor performance. Many municipalities include formal contractor performance evaluations as part of their tendering policies. In 2013, for instance, the City of Toronto mandated that the general contractor on any city construction job be evaluated using a common Contractor Performance Evaluation Form.¹² Here, the focus of the evaluation is expanded to include a broader range of factors. Inputting data as the project is ongoing would reduce the costs associated with retrieving this information after the fact, and make it possible to account for changes in budgets over time that can

Over time, this performance tracking system would develop a very large dataset that could be statistically analyzed to show trends in the dynamics of infrastructure delivery costs, quality, and cost overruns. Analysis would show whether certain terms of cost containment, and how the cost of building different types of facilities are evolving. Cities could then develop predictive models that estimate the likelihood of cost escalations under various conditions. The system could also identify the early warning signs of any strategic or corrupt project pricing behaviour, if project costs vary widely from the observed norm for that type of infrastructure.

2. Reward Good Performance

4. Apply State-of-the-Art Forecasting Techniques

Numerous innovative techniques have been designed to deliver more accurate *ex-ante* project-cost estimates. Benchmarking a project under review against a representative reference class of recently completed projects has been proposed to assess probable project costs and overrun magnitude more realistically than developing forecasts based on internal agency predictions of costs (see Lovallo and Khaneman 2003; Flyvbjerg 2003).

In line with such an approach, the British government has provided guidance on applying “optimism uplifts” to transportation project cost estimates, which are based on empirical measures of cost overruns on past projects in the sector (British Fgrctv o gpv" hqt" Vtcpu rqt" 4226+0). This method of reference class forecasting is enabled by data collected through the implementation of a rigorous performance monitoring system. In a 2015 study, James Odeck and his colleagues found that cost overruns were reduced on large transportation projects in Norway by instituting a quality assurance program whereby initial cost estimates were reviewed by exter-

incentivize contractors to meet their performance expectations, without incurring

CONCLUSION

Cost overruns have plagued government infrastructure projects for decades. As demonstrated above, if rising construction costs were merely the result of technical challenges associated with delivering large, complex projects, then it is likely that

purely economic terms, the expense of remedial measures. More broadly, political economic incentives may be shifting towards the implementation of more effective strategies to clamp down on the causes of cost overruns. With intense media scrutiny the problem. City staff may be more receptive to implementing strategies to stop of municipal project managers bearing the ultimate responsibility and losing their jobs due to poorly executed infrastructure projects. And as politicians and city projects on time and on budget and therefore support policies that reward high-performing companies.

Effective strategies do exist and are being implemented elsewhere to measure and incentivize effective management of large public infrastructure projects. Is there a will to implement these strategies at the municipal level in Ontario?

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INFRASTRUCTURE AND KPVG T I QXGT P OGPVCN"TGNCVKQPU< A POLICY FRAMEWORK, ROLES, AND RELATIONSHIPS, AND A CASE STUDY

André Juneau

This chapter explores the relationship between infrastructure policy and Canadian federalism.

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A FRAMEWORK FOR INFRASTRUCTURE POLICY

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1.

INFRASTRUCTURE PROGRAMS SHOULD HAVE PURPOSES AND PRIORITIES

There are clearly more desirable infrastructure projects than governments could possibly design, fund, and execute, with or without the private sector. Hence the obvious need to set priorities. But before choices can be made among projects, there is a need to specify purposes. Infrastructure programs and projects should

would think that after decades of concerns and objections, sometimes successful, governments would have learned to deal effectively with community views of infrastructure projects, especially large ones.

There are also stakeholders with an interest in, and often knowledge about, infrastructure needs. The more obvious groups are the Federation of Canadian Municipalities and the many provincial associations of urban and rural municipalities, the many civil engineering groups, the transportation associations, and so on. There are also groups that do not normally interact with the federal government in particular but who bring a lot to the table—as an example, the Cement Association of Canada. The provincial representation on its board of directors is often made up of senior representatives of international corporations who can discuss both provincial and international issues. This is a neglected factor in the understanding of Canadian federalism. Another set of actors arises with cross-border projects. The most striking example to date has been the Windsor-Detroit crossing, which involved the two federal governments, the governments of one province and one state, and at least two cities, Windsor and Detroit, and private-sector actors.

Regional ministers are also important actors in infrastructure decisions and are ignored at some peril. They usually are the senior minister in a province who is expected to provide a regionally sensitive political judgment on a range of federal activities. This group represent “an unheralded aspect of Canadian politics,” as Herman Bakvis has pointed out in his remarkable book on these actors (Bakvis 1991). He might have added that they also are an unheralded aspect of Canadian federalism. As he discusses in his closing chapter, in the federal Cabinet, regional ministers have played two somewhat distinct roles, at least for our purposes here. Internally they have been active in the discussions over projects in their region, both in the choice of projects and in the level of available funding. This activity took place before and during the discussions with provincial authorities. Externally, regional ministers have played a role that could be useful to the infrastructure minister and his department through quiet political contacts with their provincial

A COMPLETE RANGE OF FINANCING TOOLS SHOULD BE AVAILABLE

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Current expenditures, borrowing, loan guarantees, intergovernmental cost-shar-

techniques. Each has its own challenges and characteristics. Funding projects designed to last decades out of current expenditures seems unnecessarily cautious and limits the legitimate ambitions of infrastructure policies. Having said that, municipalities face borrowing constraints not faced by other governments.

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PROJECTS SHOULD BE DELIVERED BY THE APPROPRIATE GOVERNMENT IN A TRANSPARENT AND EFFECTIVE MANNER

First, an institutional structure needs to be adopted. The previous section on who fgekfgu"pqvgf"vjg"xcnwg"qh"fgekukqpu"dgkpi"o"cf"gd{"gngev"qh İeknu."pc o gn{"o kp- isters, mayors, municipal councils. In the case of ministers, should they be sectoral ministers (for example, ministers responsible for transportation, for drinking and waste water, for urban development)?

Or should they be infrastructure ministers? The former will have on staff specialists such as civil engineers. They will have experience with building projects, ykvj"uq o g"curgevu"qh" İpcpeki"kuuwgu0"Dwv"vjg{"vgpf"vq"pqv"jcxg"qt"ceew o wncvg" broad intergovernmental experience. They are not inclined to develop community-relations experts. They do not develop experience in one sector that would be helpful in another. More importantly, they do not have a mandate to think in vgt ou"kp"vtcf"q/hhu0"Hqt"kpucpeg." ykvj"c" İpkvg"c o qwpv"qh" o qpg{"u j qwnf"c"hgfgtcn" agreement with a provincial government fund only highways, or "fewer" highways and a wastewater plant? Having said all that, cooperation between sectoral and infrastructure departments is essential.

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Infrastructure departments are thus a good idea, but there is great variety across provincial and territorial governments in how they deal with this area. There is in fact no mapping of structures across the country. This would be useful. The absence of a similarity of institutions here makes multilateral collaboration more challenging. Some provinces have dedicated infrastructure departments; some

combine infrastructure with transport; some do not have a bureaucratic component anywhere. Many municipal governments, on the other hand, have long had an integration of capital planning and overall policy.

INTERGOVERNMENTAL RELATIONS AND THE FRAMEWORK

The framework proposed above. The starting point is that jurisdictions inevitably overlap (or, as the phrase goes, there are basically no watertight compartments), and cooperation and cooperation mechanisms are indispensable. Vernon Bogdanor maintain a rigid line of demarcation between different levels of government” (1999).

Much of the public discussion seems to be based on the idea that municipalities demand federal funding, or when the federal government allocates funds to infrastructure and sometimes feels empowered to decide on their use. It is then useful to keep in mind that governments have the responsibility for infrastructure in the areas under their jurisdiction. That still requires cooperation. Above all, this is a sector where what the Germans call “federal loyalty” is essential (Burgess 2012).

PURPOSES AND PRIORITIES

this chapter, it is convenient to start with the list in Section 2 of the bill following the budget tabled in December 2001 that launched the Canadian Strategic

“Highway or rail infrastructure;
Local transportation infrastructure;
Tourism or urban development infrastructure;
Sewage treatment infrastructure;
Water infrastructure; or
Infrastructure prescribed by legislation. (Government of Canada 2002)

tend not to identify rail projects as priorities for fear that spending in this area would take way from their own usual priorities.

The need for provincial involvement in federal infrastructure decision making has already been noted. On the other hand, it is not consistent with cooperative decisions about infrastructure purposes and priorities to be left solely to them.

The federal interest in the health of large urban areas needs to be examined carefully lest it become a pretext for federal meddling. The issue would require a carefully thought-out rationale based on the outcome of discussions with, and at the request of, the relevant provincial or territorial government as well as the affected

example is the work on the federally owned Autoroute Bonaventure in Montreal. First Nations and Inuit governments are clearly affected by federal and provincial infrastructure programs and projects. Governments at all levels are slowly recognizing the consequences. Aspects of this reality are explored in some chapters of the *State of the Federation* 2013 volume (Papillon and Juneau 2015).

It is not straightforward to set such interactions up and maintain them—not relationships and committees. There is the forum offered by ministers responsible for local government. This venue can be very useful, but some provincial and territorial governments have been very sensitive about the presence of federal ministers and intergovernmental forum, partly because of the range of provincial and territorial departmental arrangements.

Because there are many stakeholders with an interest in infrastructure, provincial and territorial governments worry that they will be treated as stakeholders. This has been evident in other sectors, such as healthcare. Unfortunately, federal documents too often carry the phrase “provinces and other stakeholders.” The concern around this issue is heightened when the federal government holds consultations.

FINANCING

The chapter by Boadway and Kitchen in this book (chapter 5) deals with the subject of money, its distribution across jurisdictions, the cost-sharing requirements, and the conditions for the transfers and the mechanisms to capture those conditions.

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communicated (and with Quebec, in what language, although a simple solution is

Vjg" fkh f ewnv" uwdvcpvkxg" pgi qvkcvkqpu" qp" vjg" pcvwtg" qh" rtqlgevu" cpf" qp" hwpfkpi" are completed before the work on the text of an agreement begins. Funding can become an issue when an attempt is made to capture in writing issues that are sometimes ignored, such as how cost overruns will be covered. The typical federal position, very hard to hold for very long, is that provinces are implementing agents and should pay the extra costs.

An interesting sidebar on delivery relates to the differences between federal-provincial-territorial discussions and federal-municipal relations. When a federal qh f ekcn" vgnmu" r tqxkpekn" qt" vgttkvqtken" qh f ekcnu" vj cv" uwej/ cpf/ uwej" c" fgekukqp" o wuv" await "Treasury Board consideration," they understand each other. Treasury Board

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2006, has the advantage of insider knowledge but the disadvantage of possible bias.

In one form or another, the Government of Canada has been involved in infrastructure spending for many years. Som1 (2-nt or)0.(, tny)0.bettoth2032(-er kn examplesure)0.a

How Were Purposes and Priorities Handled in the Beginning?

Chapter 6 of the 2001 budget bill provided the list of purposes to which the funds could be devoted, as quoted earlier in this paper. Projects were meant to be cost-shared, large, and “strategic.” It became clear, however, that the categories were not discriminating enough. Over time, Infrastructure Canada narrowed the highway category by focusing on highways designed to improve international or interprovincial trade.

Early on, another theme emerged. The Chrétien government had begun to struggle with a climate change strategy. Views ranged from the extent to which the strategic projects should be entirely or partially dedicated to the reduction of greenhouse gases. In the end, a modest approach was adopted that included the intention to at least estimate the impact on greenhouse gases and in some cases to actively favour projects that were believed to make a contribution to that goal, such as public transit projects.

On the priorities front, the success was greater. A good illustration of the trade-

been talked about for years (e.g., Highway 30 around the island of Montreal). The minister of infrastructure had the authority to select the projects following discus-

should receive part its federal funding from a “national projects” portion of the overall budget.

The practical funding issue that surfaced fairly early was that the funds would be agreed, to the great relief of Infrastructure Canada and its provincial and municipal

For the some of the major projects, governments agreed that they should be delivered through a public-private partnership. This was the case for the Canada Line, a rapid transit project in Vancouver, and for the A-30 around Montreal.

CONCLUSION

From an intergovernmental perspective, in the early years of strategic infrastructure programs, great sums of money were allocated to several valuable projects on the dcuku"qh"eqmcdqtcvkqp"cpf"equv/u jctkpi 0"Xctkqwu"hcevqtu"ecp"dg"ekvgf"hqt"vj ku"uecng< a huge appetite and need for funding with much public support, in part. As a result, governments took great care in discussions. The latter were handled at all levels by gz rgtkgpegf"qh f eknu0"V j g" gctn { " { gctu"vj gtghqtg"ugv" c" wughwn"vqpg" hqt"hwvwtg" { gctu0" Cu"wuwn"kp"Epcp f kcp"hg f gtcnku o ."vj g" f gnf" y cu"pqv"cpf" y km"pqv"dg"htgg"qh"vgpukqpu." o kuwp fgtuvcp f kpi u."cpf"eqp f kevu0"Dwv"kp"eq o rctkuqp"ykvj" f gnfu"uwej"cu"j gcnv jectg" qt"vj g" f uecn"cttcp i g o gpvu."vj ku"qpg"ku" c"uweegu"uvqt {0

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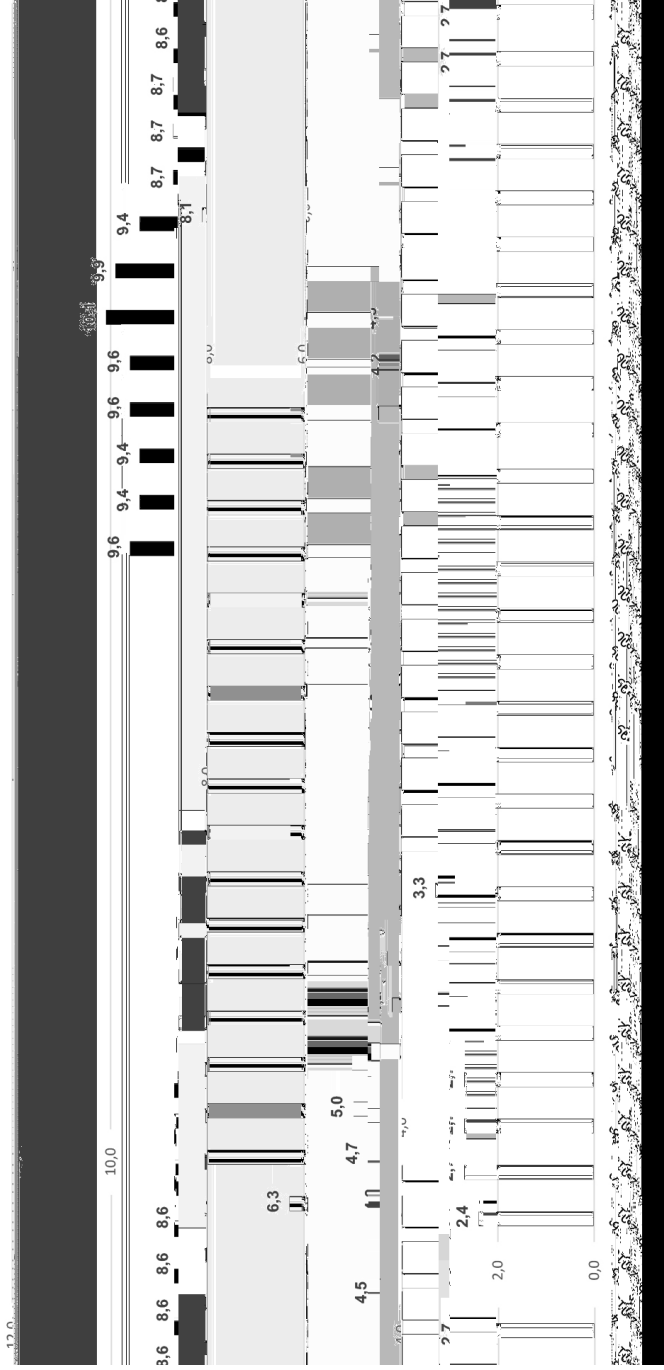
QUÉBEC'S MANAGEMENT OF PUBLIC INFRASTRUCTURE

Jacques Caron

AN ADEQUATE INVESTMENT PLAN TO ENSURE PUBLIC SERVICES

To reduce medium and long-term pressures on debt and public expenditures, the
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Figure 9.1: Annual Change in Public Infrastructure Investments since 1997–98 (Contribution of the Government of Québec, in Billions of Dollars)



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Following the collapse of Laval's De la Concorde overpass in 2006 and the adoption in 2007 of the Act to Promote the Maintenance and Renewal of Public Infrastructures, the government once again began investing heavily in transportation cu" y gnn" cu" j g c n v j " c p f " q v j g t " k p h t c u v t w e v w t g u 0 " Y j k n g " k v " o c { " u g g o " f k h f e w n v " v q " u w u v c k p " t h i s p a c e o v e r t h e l o n g t e r m , g i v e n t h e c o m b i n e d e f f e c t o n t h e d e b t a n d e x p e n d i - v w t g u . " v j g " 423764247" S k R " k p v g p f u " v q " o c k p v c k p " v j g " c x g t c i g " n g x g n " q h " k p x g u v o g p v u " c v " c " u k | c d n g " & ; 03'dknnkqp" qxgt" v j g " p g z v " f x g " { g c t u " c p f " e q p e g p v t c v g " q p " k p h t c u v t w e v w t g " i n v e s t m e n t s t h a t w i l l m a i n t a i n t h e s e r v i c e o f f e r e d t o t h e p u b l i c . T h e g o v e r n m e n t k u " c e v k p i " t g u r q p u k d n { " d { " u v c d k n k | k p i " v j g " c x g t c i g " k p x g u v o g p v u " k p " v j g " u g e q p f " f x g / { g c t " r g t k q f " q h " v j g " 423764247" S k R " c v " & ; 08'dknnkqp" c p f " t g k v g t c v k p i " k v u " r t k q t k v k | c v k q p " e t k v g t k c "

Figure 9.2: Annual Investments in the 2015–2025 Québec Infrastructure Plan (Contribution of the Government of Québec, in Billions of Dollars)



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Figure 9.3.1: Guidelines for the Prioritization of Infrastructure Investments

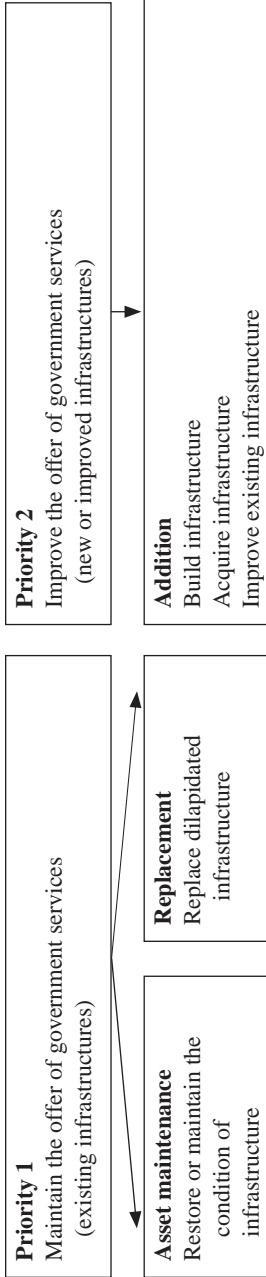


Figure 9.3.2: Guidelines for the Prioritization of Infrastructure Investments, continued
Criteria for determining

PROJECTS OF \$50 MILLION OR MORE

Rwdnke"kphtcuvtwewwtg"rtqlgevu"qh"&72"oknnkqp"qt"oqtg"eqpukvwvvg"c"uki pk f ecpv"rctv"qh"vjg"423704247"SKR"cpf"ctg"rtkqtkvk|gf"dcugf"qp"uvtcvgike"pggfu"cpf"uwdlgev"vq"vjg"iwkfgnkpgu"fguetkdgf"cdqxgfl"C"vqvcn"qh"376"rtqlgevu"qh"&72"oknnkqp"qt"oqtg"ctg" distributed among various sectors. The inclusion of these projects in the QIP in various degrees of advancement aligns with decisions made by the government during various stages of progress. The projects are divided into three categories, according to their degree of advancement.

Table 9.1: Number of projects of \$50 Million or More (under the 2015–2025 Québec Infrastructure Plan, by Sector and by Degree of Advancement)

Once in the planning stage, a BC must be prepared to present a detailed description of the chosen optimal long-term solution as well as a project management plan outlining the actions required to carry out the project. The cabinet approves the BC and then authorizes the execution of the project.

During the execution stage, the project manager must produce summary reports on the progress of the project and submit them to the Secrétariat du Conseil du

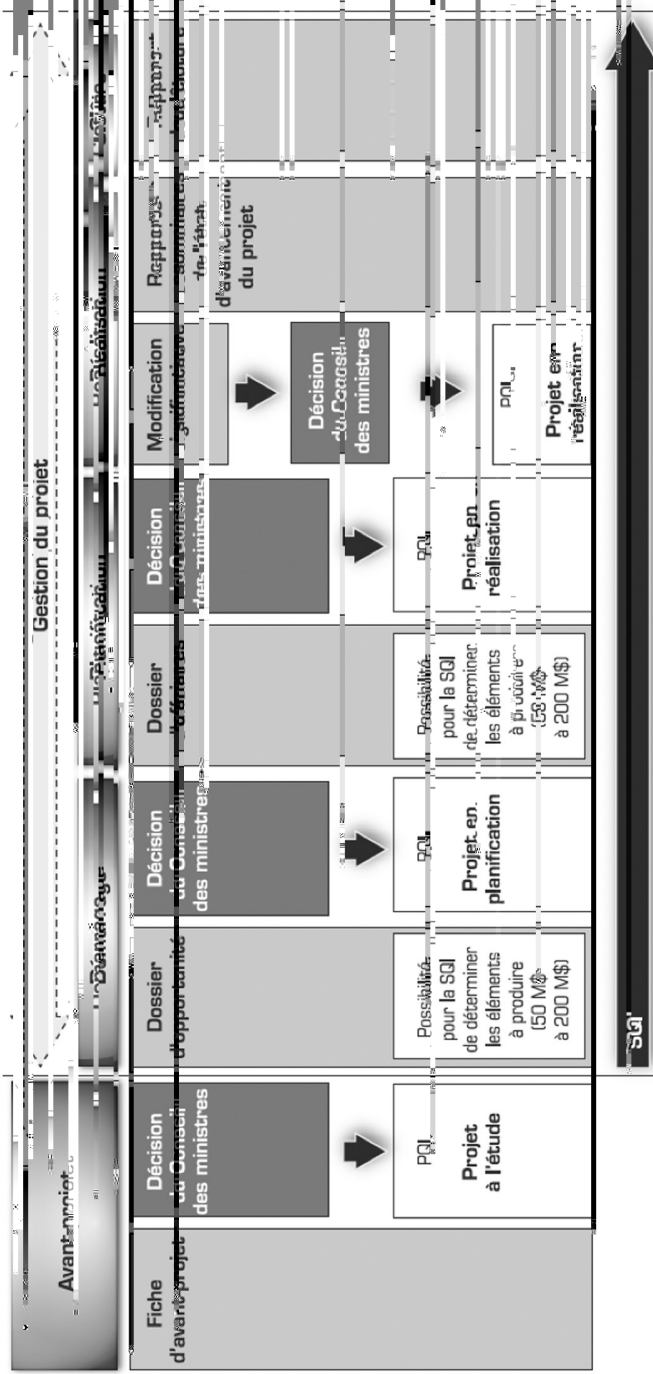
Table 9.2.2: 2015–2025 Québec Infrastructure Investments by Sector and by Type of Investment (contribution of the Gouvernement du Québec, in millions of dollars)

Sector	Maintenance of the Service Offer ¹				Enhancement of the Service Offer						
	Asset Maintenance	Elimination of the Asset Maintenance Fg l ekv	Replacement	Provisions and Central Envelope ²	Studies	Subtotal	Additions and Improvement	Provisions and Central Envelope ²	Studies	Subtotal	QIP 42376 2025
Social and Community Housing	8:6 7	568 ;	—	—	—	3:253 6	:63 2	363 3	—	982.1	2,013.5
Government Buildings	1,172.5	—	355 6	—	—	1,305.9	968.0	386 7	2.7	1,135.2	4,663 3
Information Resources	62 3	—	296.2	226.3	—	562.6	2,750.6	—	—	2,750.6	3,313.2
Other Sectors	703.1	—	252.0	4:5 6	—	3:45: 6	2,238.7	:44 6	10.9	3,071.9	6,532 6
Subtotal	53,535 6	8,269 ;	36.6:; 7	1,171.7	112.3	75,366 9	22,216.7	4,446 ;	163.0	46,826 7	99,96:; 4
Central Envelope ²	—	—	—	6,391.5	15.0	8,628 7	—	6,456 5	10.0	6,466 5	10,650.8
SNR 423764247	53,535 6	8,269 ;	36.6:; 7	7,563.2	127.3	59,551.2	22,216.7	8,67:; 3	173.0	4:;:6: ;	:;:622 2

P qvq<Hki wgu<ctg<uwp f g f c p f v j g u w o q h v j g c o q w p u o c { p q v e q t t e u r q p f v j g u q c u l l }
 3 v j g c o q w p u t g e q t f g h q t c u u g v o c l p g p c p e g c p f v j g g n k o l p c v k q p q h v j g c u u g v o c l p g p c p e g f g l e k v y g f g p q v p g e g u c t k l n f f g n g t o l p g f l p r e q o r n k p e g y k v i v j g f
 p g y f g l p k l k p u e q p c k p g f k p v j g i w k f g n p g u k u u w g f d l v j g u g e t z c t k c v f w E q p u g k l f w v t z u q t k p 423604237|V j g t g h q t e v j g n g c o q w p u c u y e m c u v j q u g c m q e c v
 g f h q t t g r n c e g o g p v o

Supplement 9B

Figure 9.5: Governance and Decision Process



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tions suggest that observers ought to worry less about the rise of municipal debt,
which has been modest,³ and more about the particulars of borrowing decisions.
Are particular municipalities borrowing too much? Are they borrowing too little?
Do they have the revenues to service debts and operate and maintain new assets?
But we should also ask what, if any, role the federal government should play in
stabilizing or lowering municipal rates, especially in light of recent volatility in
capital markets.

The next section of this chapter develops the theoretical case for municipal bor-
rowing. The discussion then addresses more practical matters, including whether
municipalities borrow responsibly, whether they can borrow at affordable and stable
rates, and what role the federal government might play in municipal lending. The
†pcn"ugevkqp"rtgugpvu"vjg"eqpenwukqpu⁰

THE CASE FOR MUNICIPAL BORROWING

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systems, wastewater treatment plants, and other long-term capital assets are lumpy.
Vjg{"kpxqnxg"uki pk†ecpv"wrhtqpv"equvu." y jkej."kh" rckf"gpvktgn{"htq o" i qxgtp o gpv"
revenues, current taxpayers alone would have to bear. But these assets generate
nqp i/vgt o "dggp †vu"vj cv"hwvtg"wgutu"gpq{"cu"y gmo⁰Dqttqy kpi "rtqxf gu"cuqnvkqp"vq"
vjku"kpvtg/i gpgtcvkqpcn"swcpfct{<"kv"vtcpuhqt o u"ko o gfkcvg"equvu"kpvtg"fgdv"ejctigu."
which cities can spread across an asset's multi-generational user base.

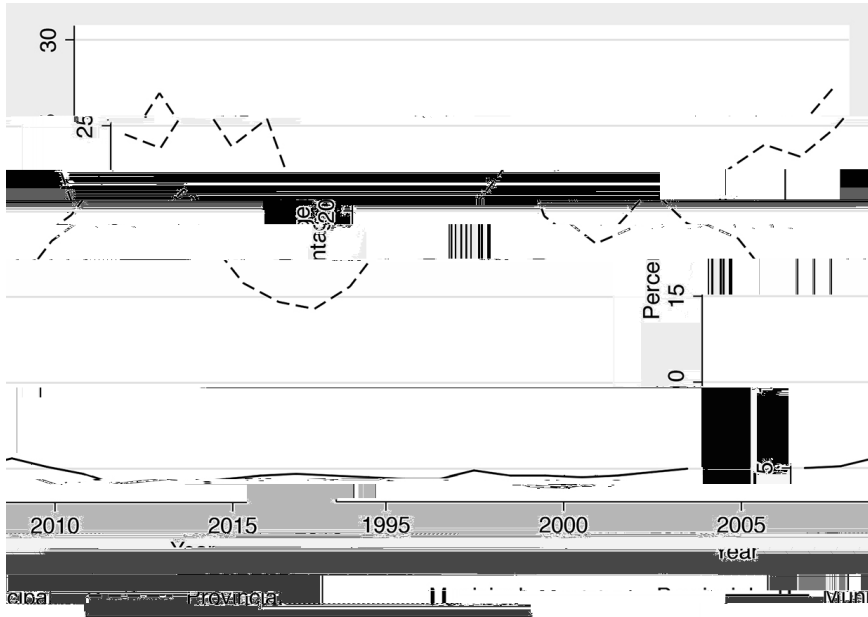
Vjku"tcvkqpcng"ku"eqpukuvgpv"ykvj"vjg"dggp †v"rtkpek rng⁰ But Dahlby and Smart
*4237+"jcxg"tckugf"ng ikvk o cvg"eqpegtpu"ykvj"fgdv"†pcpeki"*ppv"vjg"dggp †v"rtkpek-
ple). First, they note the troubling lack of inter-generational accountability that debt
†pcpeki"gpvcknu<"kv"fkvtkdwvgu"vjg"equvu"qh"kphtcuvtwewtg"cetquu"ewttgpv"cpf"hwvtg"
wgutu."dvw"fgpkgu"vjg"ncvgt"cp{"kpfwgpeg"qxgt"kpvguv o gpv"fggekukqu⁰Ugeqpf."vjg{"
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gtcvkqpcn"dggp †vu"qh"†ndgtvcu"gzkuvkpi"kphtcuvtwewtg"cpf"†pf"vjcv"dggp †vu"ceetwg"
overwhelmingly to current users⁵ (though one can, as is always the case with these

3. This is not to say, however, that there are no differences in municipal debt. Quebec
municipalities tend to borrow more than municipalities in other provinces and some rap-
idly growing municipalities, such as the York Region, have been allowed to borrow beyond
provincial limits.

⁶⁰ Vjggtg"ctg."qh"eqwtug."cf fkvkqpcn"lwwk†ecvkqpu" k k

O kpvgt

Figure 10.1: Net Municipal and Provincial Debt as a Percentage of GDP



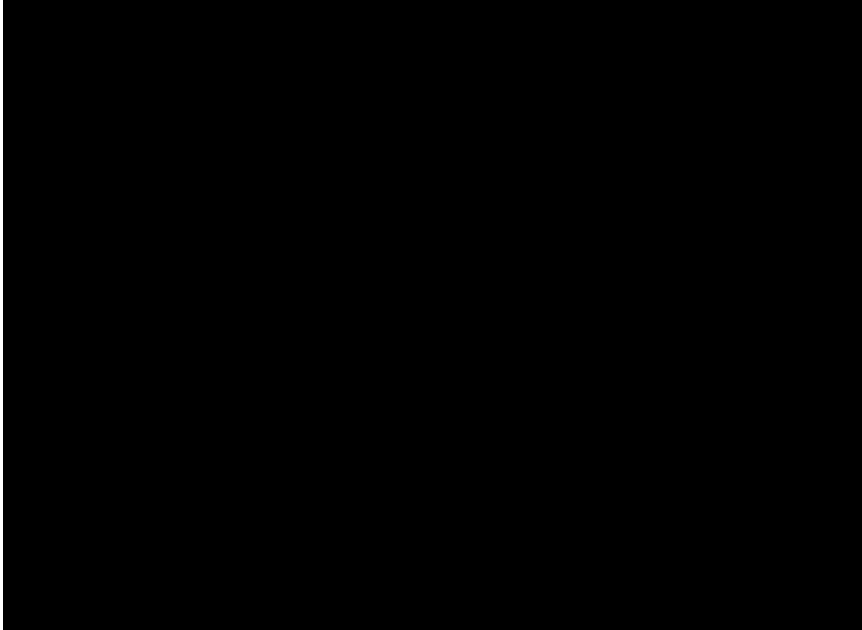
Uqwteq<Ecpuk o "Vcdng"5: 7/2254"cpf"cwv jqtüu"ecnewncvkqpuü

borrowers by raising interest rates and lowering credit ratings (Lane 1993). The second, which can work in tandem with market discipline, is some form of hierarchical discipline, in which higher levels of government (provinces, in the case

In Canada, market discipline is limited for municipalities because of the belief (held among investors and credit rating agencies) that municipal debts are provincially guaranteed (Bird and Tassonyi 2001; Hanniman 2015a). This allows municipalities to borrow on similar terms as provinces, despite the fact that provinces regulate municipal borrowing and despite the fact that provinces enjoy

This implicit guarantee explains, in part, why Canada’s provincial sector is so massively indebted (Hanniman 2015a). It has not, however, led to excessive borrowing at the municipal level. Municipal debts are a fraction of provincial liabilities (see Figure 10.1) and provincial rules prevent cities from borrowing to

Figure 10.2: Interest Rates on Ten-Year Bonds of Selected Government Borrowers



Uqwteg<"DOQ"Ecrkvcn"Octmgvu"cpf"cwvjqtüü"ecnewncvkqpuü

excess (Amborski and Nichols 2010; Bird and Slack 1993; Bird and Tassonyi 2001). Owpkekrckvkkgu"cnuq"dqttqy"cv"İ zgf"kpvgtguv"tcvgu.⁸ issue exclusively in Canadian ewttgpe{."cuuw o g"xktvwcmn{" |gtq"tg İ pcpeki "tkum.⁹ and have the capacity to reduce dqttqy kpi "kp" c" y c{" vjcv"rtqxlpegu ö y jkej"dqttqy"vq" İ pcpeg"kphtcuvtweıwtg" and government services—cannot. A sharp increase in interest rates would not, therefore,

:0" öHkzgf÷" jgtg" o gcpu"vjcv" o wpkekrckvkkgu"qrv"hq" İ zgf/tcvg"tcv jgt"vjcp"xctkcdng/tcvg" bonds, the interest rate on which does not change over the life of the bond. It does not imply that all municipalities borrow at the same rates.

9. The principal on municipal bonds is typically amortized in the case of small borrowers, which tend to issue serial bonds, or it is repaid by sinking-fund revenues in the case of large borrowers, which tend to issue bonds with bullet maturities in which all principal comes due on the day of maturity (Hanniman 2015a). This is the main reason why municipi- rckvkkgu"hcceg"xktvwcmn{" "pq"tg İ pcpeki "tkumü

trigger a repayments crisis. It could, however, undermine local capacity to borrow for infrastructure, a risk I address below.¹⁰

320

Ensuring Stable and Affordable Access to Credit

Vcdng"3203"fkurnc{u"cxgtcig"vgp/"cpf"vygppv{/gct"kpvgtguv"tcvguhqt"ixg"Ecpckcp" owpkekrckvkgu"kp"42380"Vjg"cxgtcigu"tcpig"htqo"4068"rgtegpv"vq"4088"rgtegpv"qp" vgp{/gct"fgdv"cpf"5054"rgtegpv"vq"506:"rgtegpv"qp"vygppv{/gct"dqpfu0"Vjgug"ctg" some of Canada's largest municipal borrowers. Their bonds are the most liquid, and their borrowing costs therefore tend to be lower than those of small issuers. But small municipalities have also seen their borrowing costs decline, and most have the option of borrowing from provincial agencies or lending authorities.¹² Thus, differences in subnational borrowing costs are generally small.

Dwv"vjg"uweeguu"qh"owpkekrckn"dqttqygtu"ku"swcnkfgf"kp"vyÈ

{cddqtt{

Cpf" {gv" owpkekrckvkgu" rc{ "uki pkłecpvn{ " oqtg." tgnckvkg" vq" Qwcy c." vjcp" vjg{ " fkf" prior to the crisis. (Table 10.2 provides a complete list of municipal ratings as of 5 Hgdtwt{ "42360+ "Etgfkvy qtvjkpguu" cnuq" hcknu" vq" ceeqwpv" hqt" eq/ o qxg o gpv" kp" urtgcfu0" As Figure 10.3 reveals, the spreads of various subnational borrowers are highly eqttgncvgf. "fgurkyg" uki pkłecpvn" fkhgtgpegu" cpf" e jcpigu" kp" vjgk" tgnckvkg" łuecn" jgcnvj0"

Another explanation, and one more consistent with Figure 10.3, is volatility and uncertainty in global capital markets. Investors have a well-known tendency to rebalance their portfolios towards less risky and more liquid assets during per-kqfu"qh" łpcpekcñ" fkuvtguu" *Dgdgt. "Dtcpf v." cpf" Mcxclge | "422; +0" Uwdpcvkqpcñ" dqpfu" are inherently riskier than sovereign debt. They are also less liquid. It follows that their relative value declines when market conditions deteriorate. These phe-pq o gpc õ ecnng f" ðEk i j v" vq" nkswkfkv { "-" cpf" ðEk i j v" vq" swcnkv { "-" tgurgewkxgn { õ ecwug" intergovernmental spreads to diverge (Lemmen 1999). Figure 10.3 reveals a close tgnckvkgpujkr" dgvyggp" urtgcfu" cpf" i gpgtcñ" łpcpekcñ" uvtguu0" Urtgcfu" urkmgf. "hqt" gz- c o rng. "fwtkpi" vjg" jgki jv" qh" vjg" inqdcñ" łpcpekcñ" hqt" g £ ł O ig

Table 10.2.1: Canadian Municipal Credit Ratings, 5 February 2014

Issuer	S&P	Moody's	DBRS
Barrie, City of	AA		
Belleville, City of	AA-		
Brampton, City of	AAA		
Brandon, City of	AA-		
Brantford, City of	AA+		
Calgary, City of	AA+		AA(high)
Chatham-Kent, Municipality of	A+		
Durham, Regional Municipality of	AAA	Aaa	
Edmonton, City of	AA+		AA(high)*
Essex, County of	AA		
Guelph, City of	AA+		
Halton, Regional Municipality of	AAA	Aaa	
Haldimand, County of	A+		
Halifax Regional Municipality	AA-*		
Hamilton, City of	AA		
Kingston, City of	AA		
Lambton, County of	A+		
Laval, City of	AA-		
London, City		Aaa	
Mississauga, City of	AAA		
Montreal, City of	A+	Aa2	A(high)
MFA-BC	AAA		
Muskoka, District Municipality of		Aa2	
Niagara, Regional Municipality of	AA		
Norfolk County	A		
North Bay, City of		Aa2	
Ottawa, City of	AA+	Aaa	
Oxford, County of	AA		
Peel, Regional Municipality	AAA	Aaa	
Peterborough, City of	AA-		

...continued

Issuer	S&P	Moody's	DBRS
Quebec, City of		Aa2	
Regina, City of	AA+		
Saskatoon, City of	AAA		
Sault Ste Marie, City of	A+		
St John's, City of	A+		
Simcoe, County of	AA-		
Thunder Bay, City of	AA-		
Toronto, City of	AA	Aa1	AA
TransLink		Aa2	AA
Vancouver, City of	AA	Aaa	AA
Waterloo, Regional Municipality of		Aaa	
Wellington, County of	AA		
Windsor, City of	AA		
Winnipeg, City of	AA	Aa1	

triple-A credit rating to “make it easier and more affordable for municipalities to build ... projects [for] their communities. Where a lack of capital represents a barrier to projects, the [bank] will provide loan guarantees and small capital contributions ... to ensure that the projects are built” (Liberal Party of Canada 2015, 9).

This support, common in a number of countries, could lower borrowing costs and help insulate municipal borrowing from market volatility. But federal support is not without risks. It could distort local decisions and, by making it easier to

Neither of these problems is inevitable. They depend on the bank’s design. A bank could improve local decision making, according to Siemiatycki (2016), by leaving project planning and selection to municipalities while conditioning loans and other supports on rigorous planning and project assessment.

But even a light touch approach could steer investments away from local and towards federal priorities. Beyond this, a number of practical challenges remain. What role would the bank play relative to existing provincial agencies and bodies? Would it demand more stringent reporting and planning than these entities? And

In any event, it appears that the Liberals no longer envision the bank as a source of public-private partnerships with pension funds and institutional investors. Most of

A spike in borrowing costs or loss of market access would therefore not trigger a repayments crisis.

Either could, however, undermine capital investment. At present, this is not a major risk. Interest rates are low and demand for long-term bonds is strong. But

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TGE [ENKP I "RWDNKE"CUUGVU<"CP"KFGC" WHOSE TIME HAS COME?

Michael Fenn

WHO WILL PAY FOR GROWTH AND INFRASTRUCTURE?

Although there is an emerging consensus in Canada on the need to invest in infrastructure for reasons ranging from economic stimulus to reducing the “infrastructure fglēkv.-"vjgtg"ku"nguu"ci tgg o gpv"qp"vjg" o gvjqfu"qh"hwpfkpi"cpf" fpcpekpi"vjqug" kpxguv o gpvu" Fgurkvg"uweeguuhwn"ec o rckip" rncvht o u"cti wkp i" hqt" fglēkv"ur gpfkpi" on infrastructure, public support for raising taxes and fees any time soon remains weak, even for much-needed public and community infrastructure.

Ocp{"kpEwgpvkcni"qrkpkqp"ngcfgtu"cpf" fgekukqp" o cmgtu" jcxg" o cfg"vjg"ecug"kp" very persuasive terms for revenues to support infrastructure spending and transit kpxguv o gpvu"Y jkng"vczrc{gtu"ctg"pqy"gxkfgpvn{"yknkpi"vq"ceegr"v'u"jqtv/vgt o "fglēkvu" to fund infrastructure investments, few successful politicians would claim that they are winning the hearts and minds of the voters for more money from taxpayers' pockets.

If we cannot generate new revenues from citizens and businesses to invest in public infrastructure assets, what can we do? The obvious answer, borrowing from Australia and Europe, is to look afresh at the valuable public assets that we already jcxg" Hcegfy"kvj"ctcpig"qh" f uecn"cpf" rqnkvecn"ejcmgpi"gu." o cp{"ctg"rtqrqukpi"c" pgy"cr rtqcej<ōngxgtc ikpi :-"qt"fkurqukpi"qh"cm"qt"rctv"qh"i qxgtp o gpvu" kpxguv o gpv" in their legacy assets. The concept—known as “public asset recycling”—merits serious consideration.

PAYING FOR NEW INFRASTRUCTURE WITH ASSET DISPOSITIONS

“Recycling” public assets, including so-called government business enterprises (GBEs), aims to use vestigial public investments to fund current and future public infrastructure needs. Unlike traditional approaches, asset recycling does not look primarily to the overstretched taxpayer. It also offers the opportunity to provide greater returns to investments by public pension plans, like the Canada Pension Plan Investment Board or La Caisse de Dépôt et Placement du Québec.

There are obvious advantages to paying for infrastructure with asset dispositions rather than borrowing and using taxes to pay debt-service costs. For its part, the Ontario government annually pays over \$10 billion in debt service costs.

J qy"y qwnf"uwej"c" f uecn"rqne{" y qtm"kp"QpvctkqA"C"4236"tgrqtv"hq"vjg"Oqycv" Egpvtg"cv"vjg"Wpkxgtukv{"qh"Vqtqpvq."öTge{enkpi"Qpvctkq"Cuugvu<"C"Pg y"Htc ogy qtm" hqt"Opc i kpi"Rwdnke"Hkpcpegu.-" o cru"qww"cp"cr r tqcej"*Hggp"4236c+0

I kxgp"vjg"ewttgpn"nqy"kpvtgguv"cpf"kpEcvkqp"tcvgu"cpf"tguwnkpi"jki j"cuugv" xcnwcvkqpu."yg"oc{" f pf"vjcv"vjgug"rwdnke"cuugvu"ctg"y qtvj"o qtg"vq"vjg"vczrc{gt"kp" private hands. Could we sell some government enterprises and monopolies and still earn the same (or greater) net revenues to advance public policy goals? Our public-sector pension funds can certainly point out some good examples, although too often they are overseas investments by Canadian funds. Before the concept is dismissed because of special-interest advocacy, we should test the market seriously.

Epcfkcp"i qxgtp o gpvu"j cxg"dgpp"tgnwevcv"vq"g o dtceg"v jku"hwpfkpi"cpf" f pcp- ekpi"vgejpkswg."fgurkv"vjg"vykp"rtguuwtgu"qh"c"rqqt" f uecn"qwnqpm"cpf"kpetgcukpi" demands for infrastructure investment to sustain the economy and good quality public services. But we are not alone. As

THE PROMISE OF PUBLIC ASSET RECYCLING

Asset sale proceeds or avoided costs are fungible within public-sector budgets. By refurbish public infrastructure. This is not a case of selling the furniture to pay for the groceries, as some critics suggest. It is more akin to selling your used car to help pay for your new car, or selling the motorcycle of your youth to pay for your teenage daughter's dental braces. It is all a question of setting priorities.

Non-recurring revenues should be used to offset non-recurring expenditures. One-time sales of assets should be earmarked for capital purposes, for projects that would otherwise have been funded from taxpayer-supported debt or directly from taxation.

Our public assets has likely never been greater, in current dollar terms. Across the world, pension funds and sovereign wealth funds are investing in infrastructure and in a range of public assets, from publicly operated business enterprises to information technology. Many of these capital investments provide "public goods" that would otherwise not be available to debt-ridden and cash-starved governments and public agencies. Other transactions are designed to produce one-time revenues

government-owned operations? Could they be replicated or exceeded by private, taxpaying enterprises?

In Canada, much of the public infrastructure is owned and directly operated by local and regional governments or their agencies, as well as by the provinces and territories. When considering private-sector involvement in public infrastructure for the public sector in Ontario and readily available for public projects and public enterprises. However, the need to raise taxes and fees to fund public debt service frequently stands in the way of employing that decreasing marginal cost advantage.

The bottom line is that governments need to be smart about the use of an asset recycling process. As with other kinds of public-private partnerships, it is not a matter of ideology but more a matter of the structure and the terms of the deals. The experiences (both positive and negative) of other jurisdictions can guide Canadian governments, allowing problems and their effects to be anticipated and mitigated.

Despite global trends, such initiatives have been uncommon and often unpopular across North America. While public entities in jurisdictions like Ontario have often preferred to be active participants in delivering services and building facilities rather than simply causing them to be provided to communities and consumers, those or self-interest; some may claim a public purpose that is unlikely to be achieved without government control and ownership; and, some simply point to revenues and its local government sector, all four of the foregoing arguments are heard.

WHAT'S THE RECORD?

A strong case can be made for public asset recycling, even with its relatively limited application in Ontario. The sale of the antiquated Ontario land-registry service and refurbishment, the multi-billion dollar P3 covering the Bruce Power nuclear facilities has helped Ontario to assure its electricity future, with relatively lower-cost and environmentally sustainable energy. Both asset dispositions earn solid returns

Alternative Financing and Procurement (AFP) structure. Detractors can always find fault with the structure. However, the success of the AFP structure for the ETR toll road are often cited, although frequently ignoring the multi-billion dollar non-governmental infrastructure investment that it has generated. Successful asset recycling and P3s are ultimately a matter of their terms and conditions, results-oriented regulation, and of effective negotiations based on due diligence and learning from experience.

THE NEEDS ARE GREAT; THE OPPORTUNITIES ARE APPARENT

The need to leverage public assets is both pressing and opportune. By using yesterday's capital investments to fund today and tomorrow's public priorities, governments can dislodge themselves from the vice grip of a weak economy and lack of political capacity to act in ways that are decisive, or even visionary.

The public asset recycling policy has been the centrepiece of recent Australian infrastructure investment. The public asset recycling policy has been the centrepiece of recent Australian infrastructure investment.

I also want to emphasise that the Government will not fall into the trap of cutting back on infrastructure spending as the United States and many European countries have done. The Government will boost infrastructure spending, including through my work with State and Territory counterparts on an asset recycling initiative ... This ground-breaking initiative will see the Government and Territories that sell assets and recycle the proceeds of these sales into new projects.

Asset recycling in Australia combines an effort to fund needed infrastructure, provide investment opportunities for pension funds and domestic sources of capital, and reduce the debt and tax burdens of its state and municipal governments. In contrast to the situation in Canada, Australia's infrastructure-fuelled improvement program will see the Government and Territories that sell assets and recycle the proceeds of these sales into new projects.

“RECYCLING” PUBLIC ASSETS

As the term “recycling” implies, the policy governing public assets should be dynamic and cyclical, not static or ideological. By leveraging existing public assets,

While the concept of public asset recycling may sound deceptively simple, there are many hurdles to its effective implementation. But they are hurdles worth

transaction costs for a successful asset disposition program or P3 venture. These costs include engaging personnel that are best able to protect the government's position in transaction negotiations, while still retaining the project's attractiveness *cpf"rqvqpvkcn"rtq†vcdknkv{"hqt"vjg"kpvguvqt}*

The private sector craves certainty and predictability, and it prices in the cost of risk and uncertainty. A program of public asset recycling based on a government-wide policy framework and a long-term time horizon encompassing multiple projects will reduce the risks perceived by the private sector.

Especially in Ontario, the public is inherently sceptical of P3s. A concept such as *cu"cuugv"tge{enkpi"pggf"vq"dg"ectghwnn{"cpf"ecpfkfn{"gzrnckpgf."kvu"dgpg†vu"engctn{"* spelled out, and the proceeds earmarked for purposes that the public will support. Ideally, tying the sale of old assets to the near-term construction of new ones will reduce public concerns. Using asset sales for operating purposes, or even to pay down public debt, will have less support, and raise the spectre of "paying twice" for public services—once through taxes and then again through user fees or concession payments by government.

One of the most effective ways to ensure a tight connection between asset proceeds and dispositions is to establish a capital fund or trust for infrastructure and other capital assets. The public and auditors want guarantees against governments *uweewodkpi"vq"qvjgt"ö†uecn"vgorvckvqpu0÷*

Risk-averse governments are inclined to respond to any public criticism of private operation of public infrastructure, often by imposing new regulatory conditions or intervening in day-to-day operations on behalf of political leadership. While these impulses are understandable in a democratic society, they can carry a high price. Private investors view government oversight as problematic, akin to the ability to *ejcpi"vjg"twngu"qh"vjg"icog"chvgt"vjg"†pcpekcn"vgtou"jcxg"dgpg"pgiqkvcvgf"Kv"ku* essential that the right balance be struck between the need for political oversight and the risks and real costs of "political interference." An industry-focused, hands-off regulator is one of the best ways to balance protection of the public interest *ykvj"vjg"pggf"hqt"†fgnkvt"vq"citggf"kpvguvqt"eqpfkvkqpu"cpf"cjgcwv{"qrgtcvkpi"* environment and market conditions.

To be successful, an asset recycling policy should begin with assets that will *jcxg"cj†pcpekcn"korcev"†k0g0."ukipk†ecpv"fkurqukvkqp"tgxgpwgu"hqt"iqxgtpogpv+"cpf"* important precedent-setting value, so that potential investors and the public will recognize the program as meaningful and a commitment. Governments need to avoid well-intentioned advice to start slow or small, often at the urging of interests that favour the retention of government monopolies and public employment.

Cuugv"tge{enkpi"ku"pqv"lwuv"cj†uecn"rqnke{="kv"ku"cp"geppqoke"rqnke{0" Iqxgtpogpvu" should identify new public assets that will improve productivity, create new economic activity, and improve quality of life. They should use those same criteria in deciding which public assets to divest.

It is prudent to provide some form of regulatory oversight when divesting of a *rdwnke"cuugv."rctvkewmctn{"kp"cj"oqpqrqn{"qt"qnk"iqrqn{"ugtckeg."qt"qpg"ykvj"ukipk†ecpv"*

results you want to see, do not try to “regulate your way to success.” Remember that increased levels and scope of regulation will be translated into lower asset valuations, fewer bidders, and, therefore, less competition, as well as less private-sector investment and innovation over time.

Public employees can make a material difference to the success of an asset recycling or P3 venture. In some cases, the poor state of public-sector labour relations, or resistance to modernization or changing economic conditions, may be unspoken motivations for greater private-sector involvement. In many more cases, public-sector employees are the key to the success of the change, as they have the greatest well as the clients it currently serves. Keeping public employees positive about a major change

vjg"rqvppkcn"hqt"c"hwvwtg"iqxgtp o gpv"vq"uc{ "kv"pggfu"vq" o cmg"ejcpigu"hqt"tuecn"qt" political reasons.

Recognize the expectations of investors, including pension funds, for reasonable, risk-adjusted returns. Fiscal impacts and policy goals are government's priorities. While they may support good public policy and top quality service delivery, investors' priorities are good returns and successful operations.

Pay particular attention to ensuring that projects are appropriately structured. Do not guess or presume that this is a core competency of public servants. Governments should get good advice, including having a "market sounding" performed by those who know how to evaluate the market and can be trusted to be candid.

Avoid complex, expensive, and inconsistent transaction processes. While infrastructure and P3 transactions are costly for taxpayers, they are proportionately much more expensive for potential counter-parties. If the costs appear too high in relation to the prospect of success, governments will receive fewer, more expensive bidders and partners. Investors—both domestic and international—should get used to the government's way of doing business so they can reduce their transaction costs and avoid pricing in uncertainty costs. It is also important to ensure that both sides win. Legal protections should be sound but reasonable, with an eye to enabling the uweeguu"qh"vjg"xgppvwtg0"Vjg"qrrqtvwpkv{ "hqt"ujctgf"dgpgt"vu"ujqwnf"dg"tgeqipk|gf." cpf"kppegpvkxgu"hqt"uweeguu"ujqwnf"dg"dqvj"gpqwtc igf"cpf" o wvwcm{ "dgggt"ekcn0

As noted above, ensure that the government has specialist expertise and promotes processes that attract counter-party expertise in more than simply deal making. The best transactions are those in which experienced, knowledgeable experts understand all the risks, all the terms, and all the implications. Evaluations of the value of the asset and the transaction should receive the same analysis, with an eye to the value of the asset in private hands, and with a cold-eyed estimate of the potential use, unanticipated costs, or revenue-generating potential of an asset.

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Respect the role, contributions, and impact of public-sector trade unions. Labour relations considerations will be prominent in the minds of potential private-sector

CONCLUSIONS

“Recycling” public assets—especially government business enterprises—offers an opportunity to use past and vestigial public investments to fund current and future public needs and infrastructure priorities. It makes it possible with fewer demands



FISCAL POLICY AND FEDERAL INFRASTRUCTURE FINANCING

*C. Scott Clark*¹

“POLITICAL WISDOM” TURNED UPSIDE DOWN IN OCTOBER 2015 ELECTION

A great many things changed with the election of the Liberal government in October 2015. During the election campaign, the Liberal Party committed to running a fiscal policy that promoted long-term economic growth. The party also adopted a stable debt-to-GDP ratio.

This fundamental change in direction constituted a major political risk for the Liberal Party. For the past decade, the previous Conservative government had told Canadians that they would risk losing everything if the federal government did not balance the budget. According to the generally accepted political wisdom during that time, any party willing to “promote” higher debt-to-GDP ratios was considered fiscally irresponsible.

1.

be trounced in an election. This so-called political wisdom came crashing down on 19 October.

WHY HAD CANADIANS COME TO FEAR DEFICITS AND DEBT?

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WHY DID CANADIANS FINALLY REJECT FISCAL AUSTERITY?

It was failing miserably, not just in Canada but also everywhere else where it was being applied. Fiscal austerity was not leading to increased economic growth and jobs.

Since 2008, the EU and the Euro area have been unable to escape repeated recessions. Economic growth has been virtually non-existent. Repeated applications of fiscal austerity have led to unemployment rates of 10 percent and in the case of young people above 50 percent.

In Canada, economic growth failed to recover to its potential despite ten years of

cdqxg"42"

in the federal budget until the bridge is repaired and vehicles are operating on it. C_vv_jc_vr_qk_pv. cuu_wo_kp_i"v_jg"dtk_fi_g"ncuvu" h_v{ " {gct_u.v_jg"i_qx_gt_po_gp_v"y_qw_nf"e_jc_ti_g" v_jg"hg_fg_tc_ndw_fi_gv"&322"o_knn_kq_p"c" {gct"ht" h_v{ " {gct_u0"V_jg"q_pn{"v_jk_pi"v_jc_v"y_qw_nf" c_rr_gc_t"k_p"v_jg"dw_fi_gv"ko_gf_kc_vg_n{"ku"v_jg"kp_vg_tg_uv"rc{ o_gp_vu"q_p"v_jg" h_v{ / {gct"d_qp_fu0" The actual borrowing in the bond market would show up below the budget line, w_pf_gt"v_jg"j_gc_fk_pi"q_h"ö_lp_cp_ek_n"t_gs_wk_tg_og_pv_u0-

So why, until the last election, were all political parties so against borrowing money at historically low interest rates to pay for needed infrastructure spending that might pay for itself through higher productivity and earned income, possibly without any cost to the taxpayer?

CHOOSING A FISCAL ANCHOR

K_p"j_ku" h_tu_v"dw_fi_gv. "N_kd_gt_cn" H_kp_cp_eg" O_kp_ku_vg_t" O_qt_pg_cw" t_gx_gc_ng_f" v_jc_v"v_jg" f_g l_ek_v" y_qw_nf" substantially exceed \$10 billion and that it would not be eliminated over the next h_qw_t" {gct_u0" F_g l_ek_v"g_nk_o k_pc_vk_qp" y_cu" p_q"n_qp_ig_t"c" l_ue_cn" c_pe_jq_t0" k_pu_vg_cf" k_v" d_ge_co_g"c" ö_nq_pi/ v_gt_o ÷" l_ue_cn" k_uu_wg₀"

If a balanced budget is not the right policy anchor in these circumstances, then y_jc_v"k_uA"V_jg" l_pc_pe_g" o_kp_ku_vg_t"u_vk_n"t_go_ck_pu"e_qo_o k_wg_f"v_q"k_o r_ng_og_pv_kp_i"c" o_gf_kw_o/ v_gt_o" l_ue_cn" r_qn_ke{ "v_jc_v"y_kn" o_ck_pv_ck_p"c"u_wc_dn_g"q_t"f_ge_nk_pk_pi" f_gd_v/v_q/ I_FR"t_cv_kq₀"V_jc_v"k_u" j_ku" l_ue_cn" c_pe_jq_t0" E_wt_tg_pv_n{"v_jg"hg_fg_tc_n"f_gd_v"k_u"c_tq_wp_f"53"r_gt_eg_pv"q_h" I_FR"u_nk_ij_vn{" j_ki_jg_t"v_jc_p"k_p"422: ö₂; "d_gh_qt_g"v_jg" l_pc_pe_kn"e_tk_uk_u"c_pf"p_qv" o_we_j"j_ki_jg_t"v_jc_p"k_v"y_cu" over thirty years ago.

H_gy" r_gq_rn_g"c_rr_gc_t"v_q"w_pf_gt_uv_cp_f" y_jc_v"v_jku" o_gc_pu"h_qt"dw_fi_gv" f_g l_ek_vu0"K_p"q_tf_gt" to maintain the minister's commitment to a stable or declining debt ratio over the next four years, the growth of the debt must not exceed the growth in the econ- q_o{0"V_jku"k_o r_nk_u"v_jg"dw_fi_gv" f_g l_ek_v"o_c{ "e_qp_vk_pw_g"v_q"k_pe_tg_cu_g" y_kv_jq_w"x_kq_nc_vk_pi" v_jg"o_kp_ku_vg_tu"e_qo_o k_vo_gp_v0" D_cu_gf"q_p"v_jg" N_kd_gt_cn"dw_fi_gv. "k_v" o_gc_pu"v_jc_v"v_jg" f_g l_ek_v" o_wu_v"d_g"p_q"j_ki_jg_t"v_jc_p"&44" d_knn_kq_p"k_p"4238ö39. "t_ku_kp_i"v_q"c_tq_wp_f"&52" d_knn_kq_p"q_xg_t" v_jg"p_gz_v"h_qw_t" {gct_u"*c_dq_wv"307"r_gt_eg_pv"q_h" I_FR+0" J_ki_jg_t"f_g l_ek_v"y_qw_nf"t_gu_wn_v"k_p"v_jg" debt growing faster than the economy and a rising debt burden as measured by the debt-to-GDP ratio.

C_fq_rv_kp_i"c" ö_uv_cd_ng÷" f_gd_v/v_q/ I_FR"t_cv_kq"cu"c" o_gf_kw_o/v_gt_o" l_ue_cn" c_pe_jq_t" i_kx_gu" v_jg" i_qx_gt_po_gp_v" o_qt_g"p_gg_fg_f" E_gz_kd_kn_kv{"k_p"k_o r_ng_og_pv_kp_i"k_u" r_qn_ke{"c_ig_pf_c." d_wv" v_jg_tg"ku"u_vk_n"c_p"w_ry_ct_f"d_qw_pf"v_jc_v"e_cp_pq_v"d_g"d_tq_mg_p"k_h" l_ue_cn" c_pf"k_pf_gg_f"r_qn_kv_ke_cn" e_tg_fk_dk_nk_v{"c_tg"v_q"d_g"o_ck_pv_ck_pg_f0" C" f_g l_ek_v"d_gv_yg_gp"307" c_pf"4" r_gt_eg_pv"*&62" d_knn_kq_p+" of GDP would violate the government's commitment to a stable debt burden at its existing level of 31 percent.

However, there are no economic reasons why a "stable" debt burden around 31 r_gt_eg_pv"ku" d_gw_gt"v_jc_p"c" ö_uv_cd_ng÷" f_gd_v"d_wt_fg_p"c_tq_wp_f"57" r_gt_eg_pv"q_t"g_xg_p"62" r_gt_eg_pv0" Similarly, there are no economic reasons to justify a lower debt ratio of 25 percent (the original Conservative goal). The experience of other counties also provides no

help in determining an “acceptable” debt level for Canada. For example, consider total government debt burdens (using 2015 IMF Statistics and expressing debt

Co qpi"qvjgt"eqwvptkgu."fgdv"dwtfgpu"ctg<Cwuvtenk*3907"rgtegpv+."Pgy"\gcncpf"

the federal government to replace this funding with a new much larger “federal-provincial infrastructure transfer program” spread out over a longer time frame.



Kenneth MacGregor Lecture

WHEN PUBLIC-PRIVATE
 PARTNERSHIPS ARE
 BASIC OBSERVATIONS

José A. Gómez-Ibáñez¹

It is a great honour and a pleasure to give the Kenneth MacGregor Lecture at Queen's University. It seems appropriate that infrastructure is the topic of this year's conference on the state of the Canadian Federation, since infrastructure is typically a shared responsibility of national, provincial, and municipal governments. Moreover there has been a growing concern in many industrializing and developed levels of safety and economic growth. Over the last three decades, this concern has led many countries to experiment with providing infrastructure through public-private partnerships, often abbreviated as P3s.

In this lecture I will draw primarily on the experience with P3s in highways in North America to argue that partnerships, although still something of a novelty, hold great potential for improving the delivery of infrastructure services but with two important caveats. First, the partnerships must be designed primarily as a

eventually prove so unworkable for one or both parties that they lead to potentially controversial renegotiations.

PUBLIC-PRIVATE PARTNERSHIPS DEFINED

Public-private partnerships (P3s) differ from traditional procurement in several ways. One of the most important is that they bundle together, in a single contract, activities that are traditionally procured separately. Thus a P3 may call for the private provider not just to design or build a facility but also to operate, maintain, and repair it. Bundling increases the accountability of the private partner to the government, since it reduces the possibilities of one contractor blaming others, should something go wrong. And bundling motivates the private partner to take a longer-term, whole-life perspective in designing, building, and maintaining the facility, which can be important with costly and durable infrastructure.

Another difference with traditional procurement is that the contracts sometimes specify the services desired rather than the asset required. Thus, for example, a contract may specify the number of lanes, maximum grades, etc. The focus on services rather than assets gives the private partner leeway to investigate more cost-effective methods of providing the same services.

Finally, P3s generally require the private partners to assume more risk than they would under traditional provision. Much of the added risk is a consequence of the bundling of activities and the focus on services rather than assets. With bundling, the private partner essentially assumes the risk that the different components will work together as planned, and by specifying services, the private partner assumes the risk that the asset built can deliver the services promised.

PARTNERSHIPS IN NORTH AMERICAN HIGHWAYS

I use partnerships in high-performance highways in North America to illustrate these issues in large part because highways are among the most popular forms of P3 in many countries. Modern highway P3s date back to the 1980s in the United States and Mexico and a few years later in Canada. Only a small fraction of highway investments are made through P3s, with the exception of Mexico between 1989 and 2000. By one rough calculation, highways accounted for roughly two-thirds by

plains. The states would build and operate the Interstate System segments in their territories and be reimbursed for 90 percent of the construction cost, but in return they were prohibited from collecting tolls on those segments. The restriction on tolling Interstate highways encouraged early proponents of private toll highways to overlook by the planners of the Interstate System.

Ituv'hqtv{/qpg'mknq o gvtgu"qh"vjg"tqcf."cpf"kv"fgrrqukvgf"vjg"gzeguu"kp"vjg"Qpvtckquu" general fund.

Vjg"629"rtqlgev"dgec o g"jki jn{"eqpvtqxgtukc"kp"rctv"dgecwug"vjg"eqpvtcev"i cxg" the concessionaire substantial latitude to raise toll rates without public review. The eq o dkpcvkqp"qh"jki j"vqnn"tcvgu"cpf"jki jgt/vjcp/gzrgvegf"vtch"e"i tqyv j"ngf"vq"jki j" r tq"vu"cpf"ecnewncvkpu"vjcv"vjg"eqpeguukqpcktg"oc{"jcxg"rckf"qpn{"jcnh"vjg"xcnwg" of the concession.⁶

"Jki jyc{"629"ycu"ctiwcdn{"vjg"tuv"cuugv/tge{enkpi"R5"kp"Pqtvj"C o gtkec."cpf"kv" oc{"jcxg"kp"EWgpegf"vjg"fgdww"qh"tge{enkpi"kp"vjg"Wpkvgf"Uvcvgu"chgy"{gctu"ncvgtl" Dwv"kp"Ecpfc"vjg"eqpvtqxgtu{"qxgt"629/GVT"urctmgf"cu"ugpukvkv{"vq"vjg"pggf"vq" incorporate public interests in toll setting, including the option of compensating the concessionaire with availability payments so that the government enjoyed the fkuetgvkqp"dww"cuq"dqtg"vjg"tpekc"eqpugswgpegu"qh"ugwvki"vqnnu"Kp"o quv"qh"vjg" subsequent major Canadian highway P3s the concessionaire received availability payments from the government while the government retained the toll receipts.

Vjg"629"gzrgtkpeg"cuq"oc{"jcxg"eqpvtkdwv"vq"vjg"gekukqp"d{"oc{"rtqkpegu" to establish special procurement agencies to promote and oversee the award of P3 contracts, including guidance on the design of "value for money" tests. Alberta etgcvgf"vjg"tuv"uwej"ci gpe{"kp"3;;;"hqnnqygf"d{"Dtkvkuj"Eqnw o dk"kp"4224." Swgdge"kp"4226"cpf"Qpvtckq"kp"4228"Kp"422:"vjg"hgfgtcn"iqxgtp o gpv"cwv j qtk|gf" the creation of its own promotion and technical assistance agency, PPP Canada, and the following year it began to administer a Cdn\$1.25 billion fund to pay up to 25 rgtgvpv"qh"vjg"ecrkvcn"equvu"qh"R5u"vjcv"yqwnf"pqv"qv jgt y kug"dg"tpekcnn{"xkcdng=" a second fund with another Cdn\$1.25 billion was authorized a few years later.

These efforts seem to have been very successful in increasing the number of

v j c v " d { " 3 ; ; 6 " h v { / v y q " e q p e g u u k q p u " j c f " d g g p " c y c t f g f " h q t " 7 . 4 2 2 " m k n q o g v t g u . " v y q / thirds offered by the national government and one-third by state governments. The c y c t f u " u v q r r g f " c h v g t " v j g " u j c t r " f g x c n w c v k q p " q h " v j g " r g u q " k p " 3 ; ; 6 " v j t g y " v j g " g e q p q o { " k p v q " c " t g e g u u k q p . " e w v v k p i " v t c h h e " x q n w o g u " c p f " t g x g p w g u " y j k n g " c n u q " t c k u k p i " v j g " e q u v u " of debt service for many concessionaires who had borrowed in dollars but had not j g f i g f " v j g k t " h q t g k i p " g z e j c p i g " t k u m 0 " V j g " l p c p e k c n " r t q d n g o u " q h " v j g " e q p e g u u k q p c k t g u " also threatened to bring down major Mexican banks that had loaned generously to the sector, and so between 1995 and 1997 the national government paid the bank debts of and took back twenty-three of the worst-performing concessions. In 2003 the government began to auction some of these concessions to the private sector again.

The original Mexican program is often described as a failure because so many concessions had to be taken over at substantial cost to the government. And the effects of the peso devaluation were exacerbated by some errors in the design of the program. For example, President Salinas had been concerned that P3s would be controversial and so wanted the highways to be transferred to the government as soon as possible. To that end the concessions were awarded to the bidder who proposed the shortest duration for a given maximum toll, which resulted in some very short concessions based on toll rates that proved prohibitively high in a recession. The program was also flawed because the government had to buy back the concessions again, and simple calculations suggest that most could have survived the recession had lenders been more patient. (Had lenders been more patient, the government could have avoided the need to buy back the concessions.)

Had lenders been more patient, the government could have avoided the need to buy back the concessions. (Had lenders been more patient, the government could have avoided the need to buy back the concessions.)

Vjg"vjktf" o qvkg"ku"vq"kpegpvkxk|g"tgc"ghłekgpe{"i ckpu0"Vq"wpfgtuvcpf"vjg" fkh-
 ference between this motive and the second, it is important to distinguish what
 geqpq o kuvu'ecm"vtcpuhgtu"htq o"y jcv"vjg{"ecm"tgc"ghłekgpe{"i ckpu0"Vtcpuhtu"qeewt"
 when one simply shifts resources from one party to another without making sig-
 pkłecpv"cfkvkqpcn"ejcpigu"kp"vjg"yc{"vjg"tguqwtegu"ctg"wugf0"Tgc"ghłekgpe{"i ckpu"
 occur when one deploys resources so that they produce more or better output with

made allowances for differences in tax treatment and default risk, the real costs of

The Private Activity Bonds program in the United States can be understood as cp"cvwg o rv"vq"rwy"rwdnke"cpf"rtkxcvg"lpcpeg"qp"cp"gxgp"hqwkpi"d{"gzvqpfkpi"vjg" tax advantages of state bonds to private infrastructure. However, the lower interest rates and forgiving terms of TIFIA program should be more properly regarded as a general subsidy to infrastructure, since TIFIA loans and guarantees are available to public as well as private infrastructure providers. This subsidy is substantial, oqtgqxtg."ukpeg"VKHKC"fgdv"ecp"eqxgt"cu"owej"cu"6;"rtegpv"qh"c"rtqlgevum"equvu."kpvgtguv"tcvgu"ctg"cu"nqy"cu"4076"rtegpv."cpf"tgrc{o gpv"ecp"dg"wr"vq"vjktv{/lxg" {gctu"kpewfkipi"lxg" {gctu"qh"ecrkvcnk|gf"kpvtguv07

But the key point is that if the primary motive for partnership is to borrow money, then issuing government debt is a much less cumbersome way to do so. Gxgp"kh"vjg"equvu"qh"rwdnke"cpf"rtkxcvg"lpcpeg"ctg"eq o rctcdng."vjg"vtcpucevkkp" costs of designing, awarding and administering a concession or a lease are much i tgevgt"vjcp"vjg"vtcpucevkkp"equvu"qh"kuuwkpi"cdqpf0"Cpf"kh"rwdnke"lpcpeg"ku"cevwcn{" e j g r g t " v j c p " r t k x c v g " l p c p e g * q t " k h " v j g " p q o k p c n " u c x k p i u " k u " r q n k v k e c m n { " u c n k g p v + " v j g p " v j g " r t c e v k e g " h q m n q y g f " k p " J k i j y c { " 6 2 9 . " v j g " E j k e c i q " U m { y c { . " c p f " q v j g t " q h " w u k p i " some of the proceeds of asset recycling to retire public debt makes little sense. In essence one is borrowing money at interest rates of 8 percent to 9 percent to pay off debts charging only 5 percent to 6 percent.

Transfer Resources for Immediate Budget Relief. The second common motive for infrastructure partnerships is to transfer resources for immediate budget relief. Such partnerships generally take different forms in developing than in developed countries.

In developing countries, this type of project often involves the lease or sale of a state-owned infrastructure facility or enterprise that is losing money because kvu"vctkhhu"ctg"wptgcnkuvkecn{"nqy."kuv"uvchlpi"ku"wppgeguuctkn{"jki j."qt"kvu"ugt xkegu" are too extensive. The expectation is that the private concessionaire will be better motivated to raise fares, shed excess labour, or cut services so that government lpcpekcnuwr r qtv"ku"tgfwegf"qt"pq"nqpi gt"pggfgf0"kp"guugpeg"vjgug"rtqlgevu"vtcpuhtg" tguqwtegu"htqo"vjg"wuqt"*yjq"rc{u"oqtg+"qt"ncdqwt"*yjq"owuv"lpi"cpqvjgt"lqd+"vq" taxpayers (who no longer have to support the enterprise).

In developed countries, these partnerships often take the form of asset monetization"vtcpuhtg"htqo"vjg"wuqt"*yjq"rc{u"oqtg+"qt"ncdqwt"*yjq"owuv"lpi"cpqvjgt"lqd+"vq" taxpayers (who no longer have to support the enterprise).

7. TIFIA interest rates as of 31 March 2013.

If public-private partnerships are all about transfers, then partnerships become a zero-sum game where some parties lose at the expense of others. And to the extent that partnerships are zero-sum, they are bound to be more controversial. Early in the decade of the noughts, for example, there was a backlash against privatization of utilities in many developing countries that was fuelled by the perception that

easier to predict the services that are likely to be desired in the future. The risk also falls to the extent that the project is standalone, in the sense that its success does not depend critically on the performance of many other actors. And perhaps most obvious, the risk decreases the shorter the time horizon (contract), since it is easier to foresee the near than the distant future.

an arbitration scheme that both parties will be willing to use when the stakes are high—where each party chooses a member and the two members must agree on a third—are often seen as risky since the decision seems likely to hinge heavily on the more attractive because it encourages both parties to be reasonable, although it may leave the more risk-averse party at a disadvantage.

Concessions where the government bought out the concessionaire but ten cases where the government restructured (counting the early Mexico program as a single case). One government

process.³ This lengthy process is slowing investment, and slow investment has implications for the ability of Canada to fund infrastructure. The essence of the policy rationale for the ART is that it will speed up the process. It will replace the need to

pgi qvkcvg"cpf" o cpci g"wpkswg" ĩpcpekcñ"ci tgg o gpvu"ħqt" gxgt{ "rtqlgev"qt"gz rcpukqp." ykvj" c"rtg/urgek ĩgf"vcz"vjcv"y qwnf"dg"cr rnkgf"cwvq o cvkecm{ "kh" c"rtqlgev"ku"cr rtqxf0

J qy gxgt." y jkn g"vjg"CTV" ycu" fguki pgf"vq" cff tguu"vjg"urgek ĩe"kuuwgu" tckugf" d{ " Aboriginal title, it would be applicable in other contexts, where First Nation issues intersect with resource development. For example, First Nations asserting treaty rights may raise similar issues.⁶ Not surprisingly, the resource industry wants to see outstanding First Nations issues addressed all across the country before committing substantial funds. The ART could provide the foundation of a solution for these First Nations as well.

The ART is designed to ensure that “good” projects are not screened out just dgecwug"vjg" cr rtqxcñ" rtqeguu"kvugñh" ycu"vqq" fkh ĩewñv0" J qy gxgt."kv"ku"pqv"kpvgpfgf" to reduce in any way the scrutiny that projects receive.

The ART would improve investment in several ways. It would reduce the administrative burden of the current process by replacing the need for repeated pgi qvkcvg"cpf" ykvj" c"rtg/urgek ĩgf"vcz"tgik o g0"kv"y qwnf"etgcvg"egtvckpv{ "cpf"vtcpurct-gpe{ "d{ "gpuwtkpi"vjcv"vcz"tcvgu"ctg"rtg/urgek ĩgf"cpf" rwdnku jgf0"kv"ku"kpvgpfgf"vjcv" the ART would be implemented in a revenue-neutral manner. It is expected that a coordination agreement would be worked out whereby other governments would vacate revenue room roughly equivalent to the revenue potential of the ART. First Nations that implement the ART would not seek royalty sharing or pursue additional revenue agreements with companies undertaking projects on their territory.

WHY THE ART IS NECESSARY

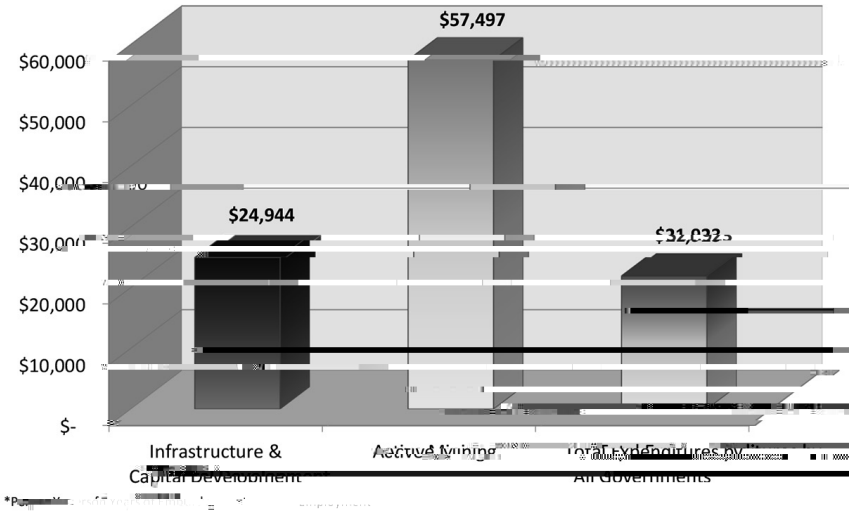
Vjgtg"ctg" ĩxg"eqpukfgtcvkqpu"dgjkpf"vjg"rqñke{ "tcvkqpcñg"qh"vjg"CTV0"ħktuv."Ecpfc" needs resource investment to maintain living standards and fund services.⁵ Second,

hvj."vjg"CTV"yqwnf"dg"vjg"dguv"ogejcpkuo"vq"rtqkfg"c"uvcdng"ugewtg"uecn"dgpg-
h"vq"Hktuv"Pcvkqpu"htqo"tguqwteg"fgxgnqr"ogp"Vjgug"eqpukfgtcvkqpu"ctg"hwvjg"
discussed below.

Canada Needs Resource Investment to Fund Infrastructure

Canada needs the revenues that resource investment could deliver. The
Rctnkc"ogpvt{"Dwfigv"Qhieg"*RDQ+"jcu"cpn{|gf"vjg"uecn"ejcngpi"gu"hcekpi"
Canadian governments and concluded that present levels of provincial services
ctg"pqv"uecn{"uwuvcpcdng"ykvjqwv"uq"og"eq"dkpcvkqp"qh"nctig"gzrgpflkwtg"ewvu"qt"
tax increases.⁶

Figure 14.2:



its development and then operations phases.

Productivity improvements would cause government revenues to grow faster than are particularly well suited to generate growth, as they produce high-paying private sector jobs that are strong net contributors to the tax base.

of tax dollars, but they contribute very large amounts of tax dollars. The models and royalties only.

The bar on the left of each graph shows the income tax and royalty contribution per worker during the development or construction phase of mine and pipeline. The middle bar shows the income tax and royalty contribution per worker during the operation phase of a mine and pipeline. The bar on the right is the total expenditure per capita by all governments.

The supplement summarizes the estimation methods, but the key point is that mines and pipelines generate more government revenues per worker than they

First Nations Need a Fiscal Stake in Resource Investment

A resource strategy needs to be part of a productivity strategy. However, Canada is getting a poor reputation as a place for resource investments.⁷ A large part of the reason is the perceived lack of resolution of First Nations issues.⁸ Investors are not sure what is required to get consent, how long it will take, or, in many cases, whether it will ever be possible to gain consent since they are not sure what a First Nation's expectations would be with respect to a project.

V j g"vtwvj"ku"vjcv"vjgtg"ku"pq"rcpceg."cpf"pq"qpg/uk|g/1vu/cnm"uqnwvkqp"hqt"cf ftguu-
ing First Nation issues. Every project raises unique issues and every First Nation

ku"v jg"ö f uecn"kuuwg:-"cpf"kvu"tguqñwvkqp"ku"c"pgeguuct{"dwv"pqv"c"uwñ f ekgpv."eqp fkvkqp"
for gaining First Nations support.

would be through generally available services such as highways.

The federal government does not typically link its transfers to First Nations to the development of federal revenues on that First Nation’s territory. Instead, it has implemented what chiefs call a “cap” on transfers—a 2 percent per annum growth below the proposed growth of federal CHST transfers.

The bottom line is that, under these arrangements, existing service and infrastructure disparities will actually widen for many First Nations even as resource Nations’ position that they have unique rights to the land as a result of treaties or First Nations support for projects.

The Limitation of Revenue Sharing

The challenge is to develop a mechanism whereby First Nations can share in the

- 6⁰ Royalties are not earned over the entire life of a project. Most First Nations wish to see their remuneration begin as soon as a project impacts the land. Royalties are typically not earned until several years after a project is initiated. Consequently, it may be years before they receive revenues, and this delay
5. Royalty policy is controlled by the province. The amount of money generated by a resource tax is going to be determined by provincial policy. The province may change its policy without reference to the impact on the revenues of the First Nations with whom it is sharing revenues.
 6. The provinces have less revenue room than the federal government over the long term. Consequently, they will be less able to share revenues over the long term.
 7. Royalties are a provincial jurisdiction, but First Nations are a federal responsibility. When provinces share revenues, they take a revenue loss, yet most of the reassigned revenues serve federal rather than provincial goals.

The Limitations of Revenue Agreements

In addition to revenue-sharing, many First Nations and project proponents have agreements for negotiated payments from the project proponent to the First Nation. This approach is really pseudo-taxation, sharing many of the attributes of taxation but without being recognized as such. Compensation under revenue agreements may take many forms, such as signing bonuses, formula-based payments, or milestone

1. These agreements are a hidden and additional tax.
2. Vjg{ "ctg"pqv"rtg/urgek l gf."cpf"uq"vjgtg"ctg"uwduvcpvkcn"equvu"cpf"vk o g"fgnc {u" associated with working out their terms.
3. They are potentially subject to claw-backs from the federal government through transfer offsets.

WHY THE ART IS AN IMPROVEMENT

The ART is suggested as an alternative to both royalty sharing and revenue agreements. The basic premise of the ART is that it simply doesn't make sense for small First Nations to negotiate what is essentially a unique tax every time a new project is developed on their territories. The existing approach guarantees that investment

moves no faster than the capacity of small First Nation administrations to consider proposals.

CTV"jcu"ugxgtcn"mg{"cfxcpcvci gu<

1. It provides a real recognition of First Nation Treaty rights and/or Aboriginal title. The ART would create a First Nations tax rather than simply share a tax collected under another government's authority. The ART is based on a phil-quqrj {"qh"fgłpkpi"vjg"ogcpgpi"qh"Hktuv"Pcvkqpu"lwtkfkevkqp."eqqtfkpcvkpi"kv" with other rights, and then implementing. Its agenda is not to extinguish rights.
2. Kv"yqwnf"rtqxfkg"ocp{"Hktuv"Pcvkqpu"ykvj"vjgkt"łtuv"qrrqtvwpkv{"vq"fkgtgevn{" ujctg"kp"vjg"łuecn"dggpłvu"dtqwijv"d{"tguqwteg"fgxgnqro gpv"qp"vjgkt"vgttkvqtkgu"
3. It would improve the investment-facilitation process. The current process for gaining the consent of First Nations for resource and infrastructure projects is a two-stage process in cases where there is a provincial royalty-sharing rqnke{"Yjgtg"vjku"ku"pqv"rtqxpkecn"rqnke{"vjgtg"ku"qpn{"qpg"uvcig<vjg"pgiq- tiation of revenue agreements with the project's private-sector proponents. However, when there is only one stage, the First Nation usually seeks more stringent terms.

Hkiwtg"3607"dgnqy"ujqyu"cv{rkecn"rtqeguu"ht"icpkpi"Hktuv"Pcvkqpu"eqpugpv"kp" British Columbia, where the province typically shares royalties with First Nations who have an Aboriginal title claim. This two-stage process begins with a negotiation dgvyggp"vjg"Hktuv"Pcvkqp"cpf"vjg"eqo rcp{"rtqrqpgpv"0" Pq/łpcpekn"eqo rppgpvu" v{rkecn{"kpenwfg"cp"kfpgpvkłcvkqp"qh"ko rcevuu"qp"vjg"gpvktqpogpv"cpf"vtfkvkqpcn" way of life as well as ameliorations. This stage would also typically include other measures such as preferential job placement and access to contracting opportun-

which is a negotiation with the province. That second stage typically includes revenue-sharing agreements.

Advantages of the ART

1. *It will reduce the administrative burden on First Nations.* First Nation administrations are relatively small and challenged to meet all the administrative demands currently placed upon them.¹⁰ Vjku" dwtfgp" ku" o cmkp i " kv" fkh f ewnv" to expedite decisions about whether or not projects can proceed. The ART would replace the need to negotiate and then manage multiple agreements with a tax administration. It would free up the administrative resources of First Nations and thereby expedite the process.
2. *It will create transparency.* Companies that seek the consent of First Nations for resource projects would prefer to know their likely tax burden from the beginning of the process. This is not possible so long as it is necessary to negotiate revenue agreements with the affected First Nation(s).
3. *It will reduce 0 0a tax admi.0469 2a.8llexityeemen66 w ETEI/568llexityeem9B37B372TT07*

potential of the tax in question. This process creates revenue uncertainty that the ART would eliminate.

5. *It will create more economically reliable revenues for First Nations. Royalties*

may not even be within the province where most of the additional revenues are generated. Federal participation in a program to create tax room for the ART would help address such issues.

3. *It will generate revenues for both orders of government.* The ART will generate revenues for both orders of government if it improves the investment climate. The ART will result in the diversion of income tax paid by First Nation persons to provincial governments, which have no responsibility to supply services to reserves.

60 *It will reduce fiscal imbalance.* The federal government is going to have more tax room for First Nations if it improves the investment climate. The ART will result in the diversion of income tax paid by First Nation persons to provincial governments, which have no responsibility to supply services to reserves. This imbalance will be worsened, since it will divert provincial revenues towards First Nations is accomplished through a vacation of tax room by both orders of government.

CONCLUSIONS

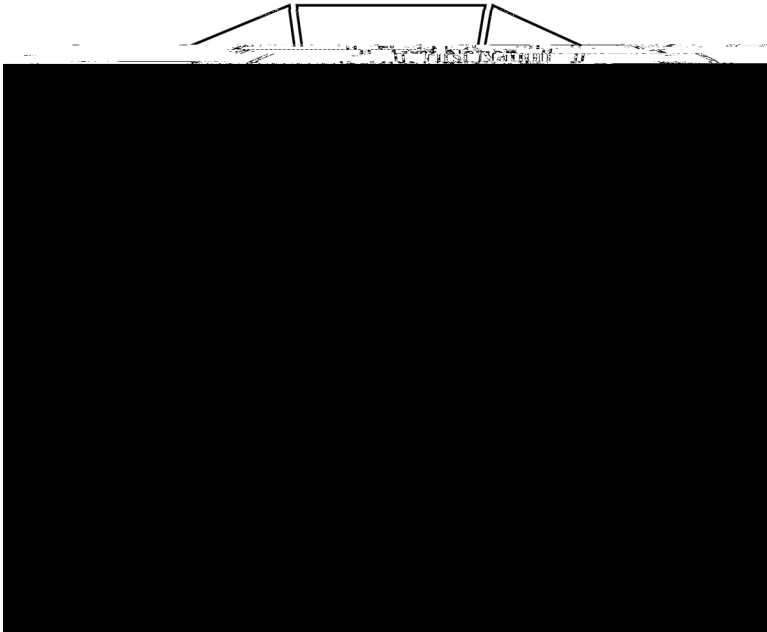
Canada's infrastructure challenge is also a productivity challenge. Part of the solution to this challenge is improving the investment climate, particularly for resources. Resource development produces very high government revenues relative to associated expenditure responsibilities, and its health is also important to the health of other industries, particularly manufacturing.

If Canada is to get the most out of a resource strategy, it needs to do a better job of addressing First Nation issues. At the root of the problem is the fact that First Nations need to share in the revenues generated by resource development on their territories. In some situations, a mechanism to accomplish this end is entirely absent. Even where it is not absent, a better method for securing these revenues is needed. It is simply not possible to have a healthy investment climate when unique negotiations about what is essentially a tax are required every time a new project or expansion occurs.

The ART could provide a better way. It would provide many First Nations with a relatively simple way to share revenues. It would remove the need for complex hidden pseudo-taxes would also be removed, and these are particularly destructive with respect to investment.

Finally, if it were cost-shared, it would

Figure 14.7: Creating a Fiscal Stake for First Nations in Resource Projects on Their territory Is a Key to Solving Canada's Productivity Challenge



cf ftguu" c" ugtkqwu" kuuwg<" kv" eqwnf" dgeq o g" c" o ge jcpku o " hqt" cf ftguukpi" v jg" f uecn" imbalance rather than worsening it.

The key to the ART would be the creation of revenue room for its implementation, preferably through the development of a federal-provincial tax credit that would be applied against eligible First Nations tax paid by companies.

Hkiwtg" 3609" uwi iguvu" v jcv" c" mg{ " vq" cf ftguukpi" v jg" kphtcvtwevwtg" ejcmngpig" ku" the implementation of the ART. The ART would allow First Nations to share the government revenues generated by projects on their territories. These revenues, if properly governed, would help First Nations address their own infrastructure fg f ekv0" V jg" CTV" y qwnf" cf ftguu" uq o g" qh" v jg" rtkpekrng" ejcmngpig" hcekpi" tguqwtg" investment and thus help unlock the revenues that it generates and create revenues at the provincial and local level to assist them in their infrastructure challenge. Hkpcmn{. " v jg" CTV" y qwnf" cnnqy" v jg" f uecn" equvu" qh" ceeq o o qf cvkpi" Hktuv" Pcvkqpu" vq" be shifted from being exclusively provincial to cost-shared and thereby address v jg" f uecn" k o dcnpeg0"

V jg" cf xpcvc igu" qh" v jg" CTV" qxgt" qv jgt" cr rtqcejgu" ctg" cu" hqnnqy u<

Uw r rñg o gpv"36C

Vcdng"3603"ujqyu"vjg"gzrgevfg"vcz"tgxgpwgu"rgt"g o rñq{gg"htq o "vjg"rtqrqugf"Mkpfgt" Morgan pipeline expansion project in British Columbia. This is an underestimate, in that several major taxes such as sales tax induced per worker have been excluded.

Conference Board estimates were reduced by the difference between the WCS cpf"Dtgpv"urtgcfu"htq o "Pqxo dgt"4235"*rwdñkecvkqp"fcvg+"cpf"Hgdtwct{"4237"< 52.22 percent reduction of base case estimates.

Table 14.1: Estimated Revenue Implications of Proposed Kinder Morgan Pipeline Expansion

Category	Federal	Provincial	Total
Expected annual increase in revenues (associated with two-year TMEP development)	\$ 322,900,000	"&4:6.522.222"	\$607,200,000
Expected annual increase in revenues (over 20 years of TMEP operation)	&"4;.555.:;6"	"&3;.499.464"	"&6:.833.358"
Expected annual increase in revenues (associated with kpetgcugf"rtqfwegt"rtqIvu"qxgt" 20 years)	&366.;;9.565"	"&3;7.335.5;6"	"&562.332.959"
Expected total annual increase in revenues (development)	\$ 322,900,000	"&4:6.522.222"	\$607,200,000
Expected total annual increase in revenues (operations)	&"396.553.45:."	"&436.5;2.857"	\$388,721,873
Cppwcn"İ uecn"dgpgİv"htq o" development per direct/indirect PYE	\$ 15,283	"&35.678"	\$ 28,738
Cppwcn"İ uecn"dgpgİv"htq o"qr-erations per direct/indirect PYE	&"";7.262"	\$ 116,879	\$ 211,918

Wages for the mine's process plant manpower requirements and general and administration staff were found in the technical report and feasibility study. Wages for construction employees were based on a 2009 BC survey of wages under National Qeewrcvkqpu"Encuuk f ecvkqpu<*3+"vtc fgu.*4+"vtcpurqtv"cpf"gswwk r o gpv"qr gtcvqtu."cpf" *5+"tgnvcvgf"qeewrcvkqpu0"Vjgug"y c i gu" y gtg"kp f ecvgf"vq"4234"fqnnctul0"

Indirect employment numbers were calculated using economic multiplier ratios for mine employment. Wages are assumed to be the average of mine or construction employees.

Provincial personal income tax was modeled using 2011 tax rates. It was assumed that non-taxable deductions from income would equal 5 percent of total income. Personal income tax per employee was assumed to increase by 2.5 percent per year.

SALES TAX

Provincial sales tax impacts from the mine are calculated using the provincial txxgpgwg" o wnwkrnkgtul0" C" r txxkpekcn" txxgpgwg" k o rcev"ku" f tuv"ecnewncvgf"cpf"vjgp"ku" broken down between corporate income tax, personal income tax, and sales taxes. Based on Government of British Columbia estimates, it was calculated that sales vcz"tgrtgugpvu"66"rgtegpv"qh"vjg"uw o "qh"vjg"vj tgg"vczgu0"

MINERAL TAX

The mineral tax estimate was made using provincial mineral tax rates and extensive use of a typical mineral mine's technical report and feasibility study's ecuj/£qy" estimates. The provincial mineral tax is a two-part tax, including a net current proceeds tax and a net revenues tax. A net current proceeds tax of 2 percent was cr rnkgf"vq"ecuj"£qy"gzewfkipi"ecrkvcn"wpvkn"vjg"ew o wncvxxg"ecuj"£qy"ycu"rqkvkxg" and tax credits were used.

After invested capital is paid for and tax credits are exhausted, a 13 percent net txxgpgwg"vcz"ku"cr rnkgf"vq"ecuj"£qy" kpenwfkpi"dqvj"qr gtcvkipi"cpf"ecrkvcn"equvu0"

MINERAL LEASE

The mineral lease revenue is calculated at \$10 per hectare based on the current lease rate set by the provincial government. The typical mine used is estimated to dg"64.858" jgevctgu"kp"uk |g0"Kv"ycu"cuuw o gf"vjcv"gxgt{ "vgp" { gctu"vjg"ngcug"coqpv" would increase by 5 percent.



Figure 14.8: Summary of Projects Undertaken by FNTC





FEDERALISM AND TRANSPORTATION
KPHTCUVTWEVWTG<"V J G"WU"
EXPERIENCE

Martin Horak and Gabriel Eidelman

The United States, like Canada, is a highly decentralized federation in which subnational governments enjoy wide-ranging policy autonomy. With respect to infrastructure, the two countries share broadly similar geographies and developmental histories, resulting in similar settlement patterns and analogous infrastructure

coalition-building at the state and local levels determines which projects reach the

This chapter presents a historical overview of public infrastructure spending in the United States, with a particular emphasis on surface transportation infrastructure (highways, roads, transit, and rail). What our investigation reveals is a system shaped by sixty years of extensive and systematic federal involvement, which stands in stark contrast to the Canadian experience. We begin by reviewing general trends in the federal government in transportation policy and funding. We then examine the dynamics of infrastructure decision making at the state and local levels. Finally, we offer some comparative conclusions about the distinctive features of the American versus the Canadian federal system.

Public Infrastructure Spending in the United States

investments across all classes of public works. The National Association of Manufacturers estimates that combined public and private spending on new infrastructure. Approximately \$181 billion was spent by federal, state, and local governments, split. According to the association, the majority of all public investment in new rail and mass transit systems, aviation facilities, ports, and inland waterways. The remainder pays for drinking water systems and wastewater plants, and to a

htq o "&322"dknkqp"vq"&455"dknkqp"rgt"{gct"kp"tgcn"*4236+"fqmctu."cp"cxgtec ig"cppwcn" increase of 2.3 percent. Spending on highways and roads rose from \$92 billion to \$165 billion, and spending on transit and rail increased exponentially from \$8 billion to \$68 billion. However, as a share of GDP, relative spending actually declined over the same period.

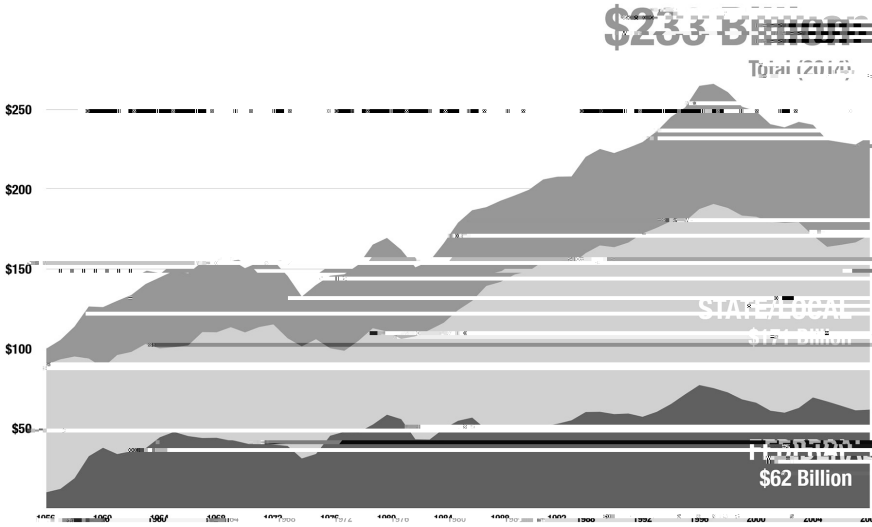
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Federal Transportation Spending: Sources and Flows

In comparison to its Canadian counterpart, the US federal government has consistently played a large role in the provision of transportation infrastructure.² Currently, the federal government provides 27 percent (\$62 billion) of all public funding for transportation infrastructure in the United States (Pew Charitable Trusts 2013). The federal government's share of infrastructure spending has generally hovered between 25 and 35 percent (Figure 15.3).

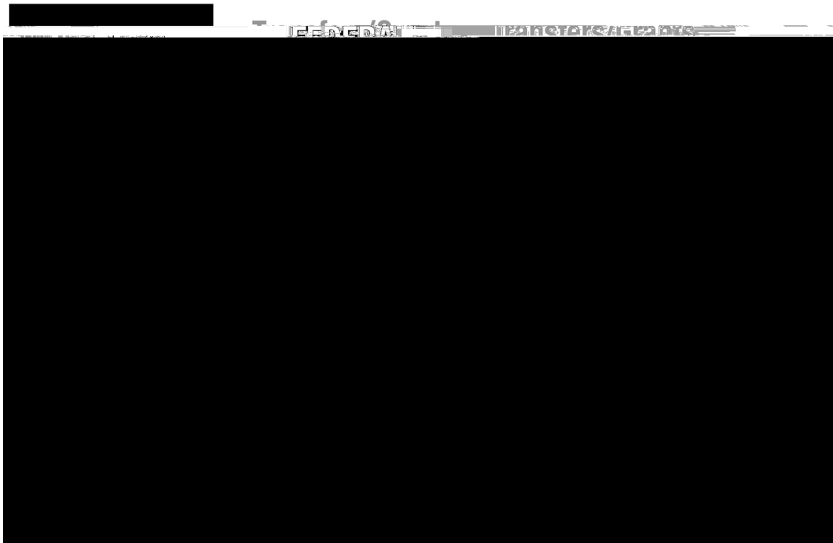
The federal government does not make many *direct* investments in transportation to states and local governments in the form of “categorical” grants—what in Canada are called conditional transfers. Of this total, 93 percent of federal funds are further categorized as “formula” grants, meaning that disbursements to other levels of government are calculated based on preset criteria and accounting procedures. Formula grants are authorized via periodic congress 179.7res

Figure 15.3: Transportation Infrastructure Spending by Level of Government, 1956–2014



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Uqwteg<Eqpi tguakpci"Dwfi gv"Qh teg"4237+0"Cflwvvgf"ht"kp(Ecwkq"4236"fqmctu+0

Figure 15.4: Transportation Funding Flows between Levels of Government



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and its subsidiary agencies—notably, the Federal Highway Administration and the Federal Transit Administration.

The most important formula grant is the Highway Trust Fund, bankrolled by the federal gas tax. The Trust Fund accounts for roughly two-thirds of federal spending, and includes money for both highways and public transit. Trust Fund money is distributed to states (not local governments) based on a complicated formula that incorporates a number of variables, including population, population density, miles

in 1965—a fourfold increase in less than a decade. While the federal government

The Reform Era: 1968–1982

By the late 1960s, as the interstate system neared completion, the inner-city disruption caused by urban expressway projects led to widespread anti-freeway protests and community resistance. As a result, the federal government reduced spending on highways and instead invested in mass transit. From 1968 to 1982, federal

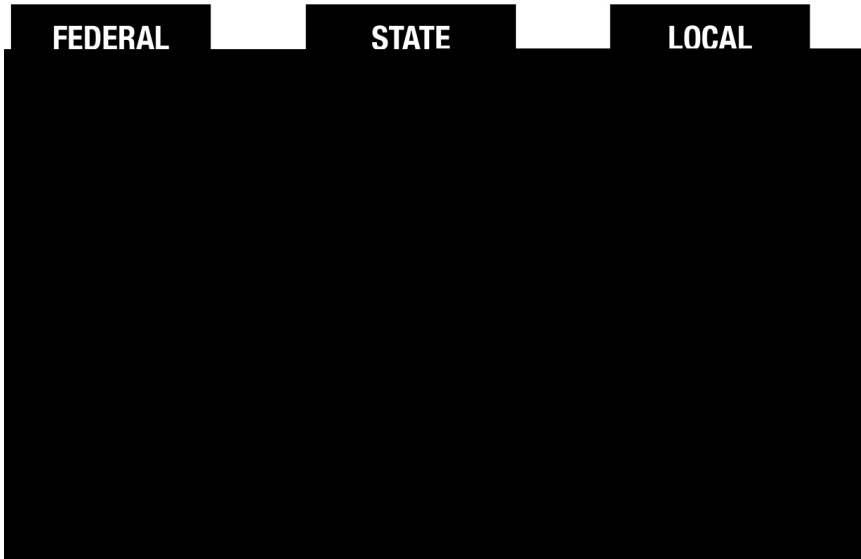
just under \$1 billion in 1968 to a peak of \$19 billion in 1980—a growth rate, in percentage terms, higher than any other federal budget item over the same period.

The jump in transit funding was in part the result of a clever political coalition

jcu"ujkhvgf" gxgp" oqtg"qh"vjg" luecn" dwtfgp" qpvq" uvcvgu" cpf" nqecn" i qxgtp o gpvu0"
 Vtcpurqtvcvkqp"pqy" tgrtgugpvu"vjg" lhwj/ncti guv"ecvg i qt{"qh"uvcvg"gzrgp fkvwtgu"cpf"
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Generally speaking, most state dollars go toward highways and roads, whereas transit projects are led by local governments. The exact share of state spending varies widely, but it is typically lower in areas with large urban populations. In Montana, for instance, 55 percent of transportation funding came from the state, whereas in New York the state contributed only 15 percent of transportation funding (ibid., 1). Spending on highways and roads, in particular, usually tracks federal spending patterns. Most states, for instance, spent heavily on highway megaprojects in the 1950s and '60s and, more recently, have seen real spending decline post-2003, in vjg"0gtc"qh"fgenkpgl:"Fgekukqpu"ctg"cnuq"kpEwgpegf"d {"vjg"urgek l e"uvtwewtg"qh"hgfgtcn" transfer programs. Federal *project* grants, for instance, typically require matching funds from state and local partners, thus encouraging increased state and local spending. Conversely, federal *formula* grants, such as the Highway Trust Fund,

Figure 15.7: Government Actors Involved in Transportation Infrastructure Decision Making



Uqwteq<Eq o rknqf"d{ "cwwjqtu0

Nqecn"fgekukqp" o cmkpi "ku"fg tpgf"d{ "htci o gpvcvkqp0"Oquv"WU"ekvkgu"ctg"fkxkfgf" into dozens of local government units, so metropolitan-scale transportation projects must consider the interests of multiple mayors, councils, and coordinating bodies (Figure 15.7). Relevant institutions typically involve, at a minimum, a regional Council of Governments that hammers out policy priorities;⁵ a regional transportation authority that develops and implements regional transportation plans; and a Metropolitan Planning Organization (MPO) that coordinates regional land use and transportation plans such that they are eligible for federal funding. It is not wpeq o o qp"hqf"tgukf gpvu"qh" o clqt" o gvtqrqnkvcp"ctgcu"vq"dg"ugtvgf"d{ "t xg"qt" o qtg" layers of local planning authorities. In some city-regions, these authorities manage to work together closely, effectively integrating transportation plans and policies; kp"qv jgtu."v j qw i j ." rqnkvkecn" t uuwgtgu"ngcf"vq" fkuqkpvf" rqnkekgu"cpf" rtqi tc o u0

The central obstacle to regional coordination is nearly always how to reconcile the needs and demands of the central city versus suburban interests. While in principle

5. Policy discussions may also extend to regional and national councils of mayors, such as Metro Chicago’s Metropolitan Mayors Caucus, or the Minneapolis Regional Council of Mayors, or the nation-wide US Conference of Mayors.

MPOs might serve as a strong institutional fulcrum for consensus-building, most are dominated by representatives of individual municipalities and are not strong policy actors in their own right. Rather, they tend to aggregate local and regional land use

COMPARATIVE CONCLUSIONS

Despite basic institutional similarities between the Canadian and American fed-

in which most federal funds (with the notable exception of Congressional earmarks) are administered by the Department of Transportation and allocated to states according to complex formulae, and individual projects are approved on the basis of formal standards and regulations.

By contrast, the Canadian federal government's much briefer involvement in transportation infrastructure funding has been largely devoid of clear policy objectives. Apart from the Paul Martin's short-lived New Deal for Cities and Communities, successive governments have shown little interest in developing a robust infrastructure agenda, let alone a clear set of goals that might spur the development of a national transportation infrastructure strategy. Not surprisingly, federal policy capacity in the infrastructure sector therefore remains low. Funding decisions are either devolved to provincial and local governments, or—as is often the case—rather than established policy criteria.

Fourth, the American federal government's long-standing involvement in transportation infrastructure has shaped state and local institutions and decision processes in ways that have no parallel in Canada. The structure and functioning of state-level Departments of Transportation, the very existence of Metropolitan Planning Organizations, and the extensive public consultation and environmental review procedures required to receive project approvals are all the result of systemic differences. The Harper government's short-lived requirement that federal contributions to large infrastructure projects be assessed for their public-private partnership potential, has Canada's federal government imposed onerous restrictions on provincial or local spending decisions.

Finally, the extreme degree of government fragmentation in the United States, particularly at the local level, combined with the impacts of devolution and recent declines in federal spending, means that proposed infrastructure projects can only be approved in a few cases, direct approval by voters. While political and administrative negotiations in Canada are often complex, the number of veto points present in the typical US case is beyond anything imaginable in a Canadian setting.

What can Canadian policy makers learn from these comparative conclusions? At the very least, the US case should serve as a cautionary tale for would-be reformers of the Canadian system of public infrastructure investment. As Altshuler and Luberoff (2003) argue, the combination of burdensome federal funding criteria, the ad-hoc nature of Congressional decision making, and the practical challenges of political coalition building and administrative coordination at the local level most often lead to policy failures. Moreover, many elements of the American system are products of deeply rooted institutional structures, and as such, cannot be easily transferred to the Canadian context. For example, due to the separation of powers between executive and legislative branches, and features of weak party discipline, the US case is beyond anything imaginable in a Canadian setting.

a result, infrastructure decision making in the United States is slower, and policies and funding commitments more durable, than we can reasonably expect them to be in Canada.

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of inclusion of intergovernmental relations related content in introductory political science courses at *larger* [American] universities and colleges” (Lovrich and Taylor 1978, emphasis in original). A more recent study, conducted by the authors of the present report, found an even higher proportion of American political science departments offering, or at least interested in offering, these courses today than that courses on federalism and/or intergovernmental relations are more prevalent in public administration than in political science; interest in teaching such courses is higher in public administration than in political science; and such courses are viewed as valuable by department colleagues in public administration (Kincaid and Cole 2016).

We are not aware of a comparable survey in Canada. A 1965 survey did not inquire about teaching or research on federalism but did point indirectly to attention to federalism by asking about leading political scientists (March and Jackson 1967). Alexander Brady as having made the greatest contributions to Canadian political scholars, all gave some sympathetic attention to it. Dawson’s *The Government of Canada* (1958) provided extensive coverage of federalism, including a chapter on “Dominion-Provincial Financial Relations.” Corry and Henry J. Abraham devoted a chapter to federalism in their *Elements of Democratic Government* (1958). Peter H. Russell deemed Alexander Brady (e.g., 1959) to be “among the foremost Anglophone scholars of Canadian federalism of his day” (Leuprecht and Russell

powers during the short expanse of our existence,” but those fears have been “both

and even edited and analyzed a version of *The Federalist* from this perspective
Supreme Court from President Franklin D. Roosevelt, was an ardent nationalist.
mostly treated it as an inescapable facet of pluralism in the US political system. In
his book on administrative decentralization in the US Department of Agriculture
Key’s earliest works (1937) was on grants-in-aid, but his later work did not focus
on federalism. Lasswell, Morgenthau, and Simon said little about federalism.

In summary, the notable political scientists mentioned in the Canadian survey
more often focused on federalism and were generally favourable to federalism
and accepting of it as a necessary balance of federal and provincial powers. More
generally, “political support for a centralist vision simply did not exist” in Canada
(Simeon and Robinson 1990, 53). The notable American political scientists paid
less attention to federalism and were most often nationalists and centralists when
they did address federalism.

More recent research in Canada has suggested a decline in the study of federalism
there and a shift away from traditional federalism topics such as constitutional
processes and Quebec sovereignty to such subjects as Aborigines and the Charter of
Rights and Freedoms, as well as declining student interest in traditional federalism
A more recent study concluded that the number of published studies on federalism
in Canada is small; federalism studies are linked to current events and issues; there
has been a decline of student, especially graduate student, interest in federalism;
and scholarly research on federalism is less common in Quebec than in the rest of
Canada (Fafard and Rocher 2009).

RESEARCH FOCUS

The focus of our study is on university- and college-level teaching of federalism-related
courses in political science departments and other programs in Canada and
the United States today.

offerings on student interest in learning about federalism and related issues? Do topics that are covered and the amount of attention given to particular topics vary in any meaningful ways between the countries?

We pursue these and other questions in full awareness and appreciation of the many differences in structures and arrangements of these two North American federations. With elements of asymmetry and comparatively decentralized legislative and administrative structures, Canadian federalism presents a picture distinctly different from the more symmetrical, centralized federal arrangements in the United States. The United States has no territorially based “national” community comparable to Quebec in Canada; Canada has a parliamentary form of government, whereas the executive and legislative functions are separated in the United States; and inter-governmental transfers as a percentage of provincial/state revenues are higher in the United States, and 90,005 units of local government, the United States encompasses a far larger citizenry and includes a far larger number of subnational governments than does Canada.

In all cases, respondents received an initial survey plus three follow-up requests for responses. Responses were received from 38.7 percent of US department heads,

Table 16.1: American and Canadian Federalism/IGR, Multilevel Government, Multilevel Governance Course Offerings

	American Wpfgti tcfwcvg." ' ' (N = 287)	Canadian Wpfgti tcfwcvg." ' ' *P"?*65+	American I tcfwcvg." ' ' (N = 106)	Canadian Graduate, & (N = 29)
Offering courses	36.1	8906	13.8	65.5
Not offering courses, but interested in doing so	6202	16.3	28.3	20.7
Totals (offering or interested in doing so)	76.1	86.2	6403	83.7

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Table 16.2: Comparative Federalism/IGR, Multilevel Government, Multilevel Governance Course Offerings

	American Under- i tcfwcvg." ' ' (N = 287)	Canadian Under- i tcfwcvg." ' ' *P"?*65+	American I tcfwcvg." ' ' (N = 106)	Canadian I tcfwcvg." ' ' (N = 29)
Offering courses	13.8	6702	16.3	31.0
Not offering courses, but interested in doing so	28.3	18.6	25.9	6:05
Totals (offering or interested in doing so)	6403	63.6	6404	79.3

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proportions of Canadian chairs report offering such courses than do their American counterparts, at both the undergraduate and graduate levels. Undergraduate and graduate courses were reported by 31.0 percent of those chairs. When asked which countries received the greatest attention in their comparative federalism coverage at both the undergraduate and graduate levels.

Table 16.3: Proportions Teaching Any Level of Federalism/IGR, Multilevel Government/Governance Courses by Various University Characteristics

Factors	Epcfc." ' (N = 72)	Wpkygf"Uvcygu." ' (N = 393)
Highest level of degree offered by department		
Bachelors	72.7	26.2
Masters	83.3	63.6
Doctoral	100.0	52.6
Degrees offered mainly by university		
Bachelors	80.0	26.3
Bachelors and masters	62.5	6:09
Bachelors, masters, PHD	100.0	76 2
Size of student body		
Under 2,500	75.0	22.6
" 4.72267.222	60.0	32.7
" 7.222632.222	66.7	63 6
" 32.222642.222	100.0	76 2
" 42.222652.222	100.0	67 :
30,000 and over	91.7	56.0

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to 65 percent), but the reverse pertains to graduate courses where 71 percent of departments in Quebec reported offering federalism/IGR courses, compared with 62" rgtgpn" gnugy jgtg"pqv" tgrqtvgf"kp"Vcdng"38|5+|)"Dgecwug"qh"vjg" o wej"u o cmgt" number of responses from Canada than the United States, however, caution is urged in interpreting these regional breakdowns.

REASONS FOR NOT OFFERING FEDERALISM-RELATED COURSES

Chairs of departments in both Canada and the United States not offering courses in federalism/IGR or multilevel government/governance were asked why they offer pq"uwej"eqwtugu|)"Tgurqpugu"ctg"ujqyp"kp"Vcdng"38|6|

Considerable differences in the responses of Canadian and US chairs to the question of why they do not offer federalism-related courses are evident in Table 38|6|)"Vjg" hcevqt"ekvgf" o quv"qhvgp"cu" c" tgcup" hqt" pqv" qhhtkpi"uwej"eqwtugu" d{ "

Reasons for not offering federalism/	Undergraduate	Undergraduate	Graduate	Graduate
interested faculty/	C o g t k e c p . " ' "	E c p c f k c p . " ' "	C o g t k e c p . " ' "	E c p c f k c p . " ' "
other courses more important to students' degree plans	(N = 179)	*P"?"36+	(N = 212)	(N = 22)
Low student interest	62.0	—	31.2	20.0
Scarce resources	59.6	36.5	23.7	20.0
Issues of federalism covered in other courses	36.9	7.1	46.9	10.0
Declining relevance of federalism	31.8	35.7	36.2	50.0
All other reasons	16.2	64.0	6.5	50.0
	5.6	—	3.2	—
	10.6	—	10.7	—

Pqvg<"Tgurqpf g p v u ' y g t g ' r g t o k w g f ' v q ' k p f k e c v g ' c m ' h c e v q t u ' v j c v ' o k i j ' v ' c r r n { 0 ' I t c f w c v g / n g x g n ' t g u r q p u g u ' are shown only for departments offering graduate degrees.

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chairs of US departments at both the undergraduate and graduate levels is “lack of such courses are “other courses more important to students’ degree plans” and “low student interest.” Low student interest and lack of interested faculty were relatively infrequently cited by chairs of Canadian political science departments. There, the most important factor cited was “issues of federalism being adequately covered in other courses.” “Scarce resources” was cited as an important factor in not offering such courses by both US and Canadian chairs. Clearly, though, perceived lack of interest by both students and faculty is a much more important factor in not offering such courses in the United States than in Canada.

Table 16.5.1: Course Characteristics

	Undergraduate C o g t k e c p . " , " " " (N = 60)	W p f g t i t c f w e g " E c p c f k e p . " , " " (N = 18)	Graduate C o g t k e c p . " , " " (N = 35) ^a	Graduate E c p c f k e p . " , " " (N = 10) ^a
F g r c t v o g p " y j g t g " v e w i j v <				
Political science	: 6 8	; 6 6	56 5	50.0
Public administration	5.8	—	20.0	30.0
All others	9.6	5.6	67 9	20.0
E q w t u g " w k v i n g <				
BDC ment >				

Table 16.5.2: Course Characteristics

Cxgtci ^g gptq ^o gpi ^κ								
5 or less	2.2	—	—	3.0	10.0			
" 8632	8.7	—	—	33.3	50.0			
" 33637	8.7	11.8	—	18.2	20.0			
" 38642	21.7	5.9	—	33.3	20.0			
" 43652	32.6	17.6	—	6.1	—			
" 53662	6.5	17.6	—	3.0	—			
" 63 ^o cp ^f cdq ^{xg}	19.6	69 3	—	19.6	—			
Uwwfgpv ^l kp ^g tgu ^w lgxg ^κ								
Very interested	12.8	39.5	—	32.3	62 2			
Somewhat interested	66.7	56.3	—	76)	50.0			
Not very interested	20.5	6.3	—	12.9	10.0			
Xc ^{wg} vq ^l fg ^{rct} o ^{gpi} κ								
Very valuable	10.8	65)	—	25.0	10.0			
Somewhat valuable	73.0	50.0	—	62.5	60.0			
Not very valuable	13.5	6.3	—	12.5	30.0			
Not valuable at all	2.7	—	—	—	—			

^a Asked only of departments offering graduate degrees.

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COURSE CHARACTERISTICS, STUDENT INTEREST, AND VALUE TO DEPARTMENT

We asked faculty teaching these courses in both countries about various characteristics of their courses, level of student interest in these courses, and the value they believe their department colleagues consider such courses to be to the curriculum. Results are displayed in Table 16.5.

Table 16.5 reveals a number of similarities, as well as differences, in federalism-related courses as offered in Canada and the United States. In both countries, most of the undergraduate courses are offered in political science departments, but many of the graduate-level courses are offered outside of political science departments. The terms “federalism or intergovernmental relations” are most often used to describe the undergraduate courses in both the United States and Canada, but terms such as “multilevel government or multilevel governance” are often preferred at the graduate level in Canada. Federalism courses are most frequently offered once a year in both countries, although the next most common frequency is “not every year.”

Student interest in such courses is reported to be much greater in Canada than in the United States, and especially so at the undergraduate level. Further, Canadian faculty respondents are far more likely than their US counterparts to believe their department colleagues view such courses as “very valuable” at the undergraduate level, but these evaluative relations are somewhat reversed at the graduate level. A considerably higher proportion (30 percent) of Canadian faculty perceive their department colleagues as viewing their graduate-level federalism-related courses as “not very valuable” than do their US counterparts (12.5 percent). All of these results, however, must be tempered by the fact that so few Canadian respondents teach in strictly graduate-level programs.

ONLINE COURSE OFFERINGS

We also asked about the extent to which such courses are offered online, and the impact of online offerings on student interest. Table 16.6 shows results of this question.

A somewhat higher proportion of federalism-related courses appear to be offered

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PREFERRED COURSE TITLES

We asked faculty teaching these courses in both countries to indicate whether

Figure 16.1: Topics Ranked by Time of Class Coverage

During a semester. The scale ranges from 1 to 10, where 0 represents 0 percent, 5 represents about 5 percent, 2 represents about 10 percent, and so forth. Respondents were not required to total their responses to 100 percent. Bar heights represent proportionate amount of class time, ranging from about 15 percent or more at the high end to about 5 percent or less at the low end. The topic category "The Founding" was not asked in the Canadian survey, and the categories "Quebec in the Federation," and "Aboriginal Peoples in the Federation" were not asked in the US survey.

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Rqike{"kuuwgu"*rqike{"v{rgu"cpf"urgete"rqike{"ctgcu+

Vertical/IGR (relationships between local, state/provincial, and federal, including executive federalism)

Theories (normative/philosophical)

Fiscal (grants, revenue, expenditures, equalization, etc.)

Political issues and actors (interest groups, actors, interactions)

Historical development (change since 1789 [for US], before and after 1867 [for Canada])

Legal/constitutional issues (court cases and laws affecting IGR and state/provincial powers)

Kpvtuwcvglkpvttrtqxlpelcn*"pcvkqpykfg"cpf"tgi kqpcn"eqrgtcvkqp."eq o rgvkvkqp."eqp(Ekev."wpkhqt o lv {+

The Founding (Framers' philosophy, The Federalist, Anti-Federalists)

Regulatory (pre-emptions, mandates, conditional grants, federal rules)

Emerging (projections of trends, reforms, and developments)

IGR administration/management (collaboration, networking, administration, etc.)

Comparative (cross-national and international comparisons)

Interlocal (inter-local relations, regional cooperation, etc.)

Quebec in the federation (theories, asymmetry, IGR dynamics)

attention and time in the Canadian curricula; similarly, the unique US topic, “the Founding,” receives considerable attention in the United States.

Based on amount of class coverage time devoted to each topic, then, and with a few important caveats, it seems fair to conclude that a reasonably similar set of “core topics” is common to the teaching of federalism-related courses in both countries, and that in both countries a fairly similar set of topics falls out of the “core.” In both countries, faculty report relatively large amounts of class coverage being allocated to such topics as “policy issues,” “vertical federalism,” “theories,” “öġuecn.÷"örqkvekcn.÷"öjkuvqtkecn.÷"cpf"öng i cn0÷"Cnuq"kp"dqvj"eqwvptkgu."hcewnv{"tgport relatively less class time committed to such topics as “IGR administration,” “comparative,” and “interlocal.” Even within these broad sets of commonalities, a number of important distinctions exist, and in both countries, topics unique to each receive considerable coverage.

CONCLUSIONS AND DISCUSSION

Our surveys, conducted with political science chairs and faculty in both countries, uj qy"uki pkġecpvn{"nctigt"rtqrqtvkqpu"qh" fgrctv o gpvu"kp"Ecpcfc"qhhtkpi"eqwtugu" on federalism-related topics at both the undergraduate and graduate levels than is the case in the United States. Also, courses on comparative federalism are more common in Canada, although even in Canada, fewer than half the departments surveyed offer such courses.

Cv"ngcuv"cvġjg"wpfgti tcfwcvg"ngxgn."Ecpcfkcp"hcewnv{"tgrqtvgf"uki pkġecpvn{"jki jgt" levels of student interest in federalism-related courses, and were far more likely than their US counterparts to believe that such courses are considered to be “very ug Ef oxcnwcdng÷"df" v jeb" fgrctv o gpvu" hcewnv" Cnvqi gy jgt." v jgp." qwt" uwtxg{" ġpfpkiu" show much more teaching coverage and student and faculty interest in federalism throughout Canada, including in Quebec, than reported by tederġi21thst

works. Other courses on political parties and public policy in Canada probably also focus more on federalism than in the United States because they must deal with provincial powers and identities that are more salient in Canada than are state powers and identities in the United States. Still, courses on federalism and inter-governmental relations occupy a respectable position in political science curricula in the United States, and available trend data indicate that the popularity of such courses might be growing there. The embrace of states' rights and "progressive federalism" by contemporary liberals (e.g., Abramsky 2017) in the face of recent Republican presidential administrations, and now especially Donald Trump, could increase academic attention to federalism.

Our data cannot tell us why the teaching of federalism appears to be more common and more valued in Canada than in the United States. Perhaps the country's persistence of interest in federalism in Canada. In the United States, no presidential candidate since 1980 has made federalism a campaign issue or proposed another New Federalism. Although the Harper government took a more hands-off approach to Senate reform, securities regulation, infrastructure spending, and other matters.

The term "federalism" seems to be more common in Canadian political discourse than in American discourse. Canada has experienced several constitutional crises over the past sixty years, and some of Canada's most important policy issues, such as the 1995 Quebec referendum, the 2000 Meech Lake Accord, and the 2005-2006 constitutional crisis, have centered on the issue of federalism. The 1995 Quebec referendum, in which the province of Quebec voted to secede from Canada, was a major constitutional crisis. The 2000 Meech Lake Accord, which was intended to amend the Constitution to give Quebec more powers, was another major constitutional crisis. The 2005-2006 constitutional crisis, which involved the proposed Charlottetown Accord, was a third major constitutional crisis. These crises have kept the issue of federalism in the public eye and have led to a renewed interest in the topic.

involving provincial superiority over the national government. In addition, a vision of dualistic coordinate federalism seems common in Quebec compared to a more cooperative federal vision elsewhere.

The very survival of Canada depends on federalism in a way that is no longer true in the United States. Perhaps the teaching of federalism-related issues in the United States has yet to fully emerge from the “dark continent” of political science teaching and from the lingering association held by some with negative and racist aspects of the term “states’ rights,” a term frequently linked with federalism in the United States. Provincial autonomy in Canada is not associated with the kinds of reactionary policies, such as racial segregation, associated with states’ rights in the United States. Furthermore, Canadians are attached to their provinces more strongly than are Americans to their states.

So, to answer the question posed by the title of this essay, the teaching of federalism is “alive” in both Canada and the United States. Although it probably is fair also to conclude that federalism teaching is doing “well” in both countries, it is not clear that the offering, and the interest in offering, federalism and federalism-related courses at both the graduate and undergraduate levels in the United States are sizable, but it remains to be seen whether the level of such course offerings will reach the level present in Canada.

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Uk o gqp." Tke jctfñ 4235ñ ðTg lgevkqpu" qp" c" Hgfgtcnkuv" Nkhgñö" Kp" *The Global Promise of Federalism*, edited by Grace Skogstad, David Cameron, Martin Papillon, and Keith Banting. Toronto: University of Toronto Press.

