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Report May 2007

# Sustainable Urban Transportation
# A Winning Strategy for Canada

Sustainable Urban Transportation: A Winning Strategy for Canada
by *Anne Golden* and *Natalie Brender*

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## Preface

Amid a trend toward growing urbanization and suburban sprawl, Canada is facing major shortfalls in its urban transportation systems. This report examines the current condition of urban transportation in Canada—including roads, public transit and inter-city transit—and the policy measures needed to set a better course for decades ahead. It concludes with 12 recommendations addressed to Canadian governments and business.

# CONTENTS

**Executive Summary**—Sustainable Urban Transportation . . . . . i

**A Winning Strategy for Canada** . . . . . **1**
Connective Physical Infrastructure Linking People and Goods . . . . . 2
Enhancing Urban Freight Transportation . . . . . 10

**Appendix A**—Bibliography . . . . . 15

**Appendix B**—The Canada Project Research and Dialogue Activities . . . . . 18

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## EXECUTIVE SUMMARY

# Sustainable Urban Transportation
# A Winning Strategy for Canada

### At a Glance

- Among the core elements that make cities successful, efficient urban transportation networks are pivotal to business investment and growth as well as environmental sustainability.
- Amid a trend toward growing urbanization and suburban sprawl, Canada is facing major shortfalls in its urban transportation systems.
- This report examines the current condition of urban transportation in Canada—including roads, public transit and inter-city transit—and the policy measures needed to set a better course for decades ahead.

As The Conference Board of Canada noted in *Mission Possible: Successful Canadian Cities*, the fate of Canada's cities is intimately bound up with the long-term prosperity and sustainability of the country as a whole. Among the core elements that make cities successful, efficient urban transportation networks are pivotal on several fronts. They are key to business investment and growth, since companies depend on the efficient movement of workers and goods around urban areas to maintain their competitiveness. And from a social and environmental perspective, the construction of integrated mass transit systems across urban regions provides an eco-friendly way for workers to commute to jobs in a reasonable length of time.

The beginning of 2007 has seen a reinvigorated debate about public transit and its funding, stemming from several important developments such as the release of the 2006 census (which confirms an ever-increasing number of Canadians living in urban areas) and an increased prominence of transit and transportation infrastructure for cities on the federal government's agenda. While these developments are encouraging, seeing them through will require a sustained focus by both government and citizens on the reasons why public transit is so indispensable to the success of Canada's cities.

In Canada, while the majority of population and employment growth, in absolute terms, still occurs inside the existing urbanized areas, the fastest growth is occurring outside the urban cores of census metropolitan areas. The resulting low residential densities and sprawl, together with the move of jobs from city centres to the suburbs, have major implications for urban transportation, the environment, the economy and health.

Congestion is a major problem in many urban areas. It increases energy use, air pollution, greenhouse gas emissions and accident risk, not to mention the time people spend in cars instead of in leisure or productive activities. It harms the competitiveness of urban centres and the national economy by delaying the movement of goods and people and by increasing transportation costs.

Most big cities in Canada aim to support public transit by linking land use and transportation planning with higher density residential and commercial development. In 2005,

the Ontario provincial government examined the implications of forecast population growth in Ontario's Greater Golden Horseshoe (one of the country's largest and fastest growing regions) and proposed a strategic growth management plan to promote growth patterns that would create high-density communities, curb low-density sprawl, decrease reliance on cars and thereby reduce traffic gridlock, making the transportation of goods and people more efficient.

Urban infrastructure in Canada today is suffering the consequences of a long period of public disinvestment. As a result, Canada's urban areas now face massive public infrastructure investment needs for maintenance, renewal and expansion to accommodate growth. In 2003, estimates of the Canadian infrastructure gap ranged from a low of $50 billion to a high of $125 billion.

Stakeholders and governments agree that Canada's urban infrastructure needs far exceed the capacity of the country's traditional revenue sources. To address the infrastructure gap, we require new sources of funding and alternative methods of financing. Road pricing or "tolling" is one way to help fund infrastructure, control congestion, reduce environmental damage and facilitate public–private partnerships.

**Experts generally agree that a sustainable transportation strategy must include tactics to mitigate the environmental effects of fuel consumption.**

As cities develop and grow into knowledge-based economies, linking people to other national and international centres of knowledge is becoming increasingly crucial. Airports must be included in development plans for transportation infrastructure and fully integrated into regional systems. Inter-city transportation must also become more rapid and efficient to help reduce automobile dependence and the environmental impacts of fossil fuel consumption.

Improving public transportation and making it an attractive alternative must have a central place in any strategy aimed at making urban transportation more sustainable. Most transit operators have barely addressed the critical need for investment in new technology. Since transit ridership is induced mainly by service, frequency and convenience—all of which can often be improved cost-effectively through operational measures—such improvements should be pursued wherever feasible.

While automotive technology and fuel have become cleaner, these advances are being largely negated by Canadians' choices about where and how to travel. Experts generally agree that a sustainable transportation strategy must include tactics to mitigate the environmental effects of fuel consumption.

Improving the viability of public transportation is not enough—on its own—to guarantee the changes in travel behaviour that are essential to achieving sustainable urban transportation. Incentives to leave the car at home need to be combined with disincentives to use the car.

In a world economy dominated by global supply chains and international trade, urban goods transport has burgeoned, as have the associated congestion, energy consumption and safety problems. Given Canada's dependence on trade, the efficient functioning of Canada's trade gateways and inter-urban corridors is essential to national prosperity.

Great strides have been made globally in determining the strategies and measures needed to improve urban transportation systems, yet implementation barriers block progress. A study commissioned by the European Conference of Ministers of Transport identified a number of obstacles that are highly relevant to Canada, as well as ways to improve the implementation of sustainable policies. That study also makes several recommendations that, while directed at the national level, are also applicable to Canada's provincial and territorial governments.

This report concludes with 12 recommendations (directed specifically to various government levels as well as business) for improving urban transportation in Canada.

# Sustainable Urban Transportation
# A Winning Strategy for Canada

As The Conference Board of Canada noted in *Mission Possible: Successful Canadian Cities,* the fate of Canada's cities is intimately bound up with the long-term prosperity and sustainability of the country as a whole. Among the core elements that make cities successful, efficient urban transportation networks are pivotal on several fronts. They are key to business investment and growth, since companies depend on the efficient movement of workers and goods around urban areas to maintain their competitiveness.

And from a social and environmental perspective, the construction of integrated mass transit systems across urban regions provides an eco-friendly way for workers to commute to jobs in a reasonable length of time. This is particularly important as job locations shift from the downtown core (which is comparatively well served by existing mass transit systems) to dispersed suburban centres scattered throughout urban regions (which are extremely difficult or too distant to access by public transit, especially for workers commuting from one suburban region to another).

> Opting for public transit is a winning strategy that increases the appeal and competitiveness of metropolitan regions. Public transit also has several positive spin-offs in terms of reducing traffic and improving the quality of life and health of citizens. Finally, public transit plays an important social role and for many households it represents an affordable and accessible means to get around the city.[1]

**The 2006 Census confirms an ever-increasing number of Canadians living in suburbs and so-called "edge cities" rather than city cores.**

The beginning of 2007 has seen a reinvigorated debate about public transit and its funding, stemming from several important developments. The 2006 census confirms an ever-increasing number of Canadians living in urban areas—and a large proportion of that growth is located in suburbs and so-called "edge cities" rather than city cores. With these areas growing by 11 per cent between 2001 and 2006 (a rate twice the national average), worries about suburban sprawl and commuters' quality of life have been underscored. In March, the Federation of Canadian Municipalities (FCM) and its Big City Mayors' Caucus urged the federal government to create a national transit strategy that would boost federal transit funding to meet both environmental and competitiveness goals. March also saw the unveiling of the Toronto Transit Commission's

1 FCM, "Mayors Release National Transit Strategy Program."

plan for a $2.4-billion light rail system that would comprehensively service the entire urban region—funding that has yet to be secured.

Transit and transportation infrastructure for cities is beginning to capture Ottawa's attention, as evidenced by Prime Minister Stephen Harper's March announcement of $962 million for federal transit projects in the Greater Toronto Area. The 2007 federal budget saw a four-year extension (to 2014), at $2 billion per year, of the existing Gas Tax Fund transfer, which can be used for projects such as mass transit and roads. The seven-year, $8.8-billion Building Canada Fund, which replaces and extends existing infrastructure funds, will provide a slight increase in total funding available for municipal infrastructure, including roads and transit. (On the other hand, the 2007 budget does not designate any funds specifically for big-city public transit, a regrettable omission.)

While these developments are encouraging, seeing them through will require a sustained focus by both government and citizens on the reasons why public transit is so indispensable to the success of Canada's cities. This report lays out the issues and presents key recommendations for action, with the aim of orienting public policy in the years ahead.

## CONNECTIVE PHYSICAL INFRASTRUCTURE LINKING PEOPLE AND GOODS

Successful cities depend on connective infrastructure to link people, goods and ideas. When it comes to advancing the economic competitiveness and social and environmental sustainability of our cities, the highest connective infrastructure priority is undoubtedly urban transportation.

No modern city can thrive without an efficient urban transportation system that moves people and goods safely, with minimal environmental consequences. Yet the challenges of urban transportation—which include congestion, greenhouse gas emissions, car dependency and aging infrastructure—continue to plague cities and large city-regions in Canada and around the world. A decade ago, the National Round Table on the Environment and the Economy (NRTEE) warned, "If existing trends are allowed to continue, Canada's transportation networks will become more polluting, increasingly congested and, with urban sprawl, more costly to maintain. The economy, the environment and the quality of Canadians' lives will suffer as a result."[2]

### URBANIZATION, LAND USE AND AUTOMOBILE DEPENDENCE

In 2001, the federal government took steps toward developing a national transportation strategy. Transport Canada's *Creating a Transportation Blueprint for the Next Decade and Beyond: Defining the Challenges* identified urbanization as one of the major challenges, noting that Canada has become one of the most urbanized countries in the world.[3] Indeed, 80 per cent of Canadians live in urban centres, yet road networks are failing to keep up with growing volumes of cars and trucks, and public transit systems are struggling to attract riders.

**No modern city can thrive without an efficient urban transportation system that moves people and goods safely, with minimal environmental consequences.**

In many regions of the world, economic change and immigration flows continue to bring new residents to urban areas. Many countries are also seeing their urban populations spread beyond central areas to surrounding suburbs and towns. In Canada, while the majority of population and employment growth, in absolute terms, still occurs inside the existing urbanized areas, the fastest growth is occurring outside the urban cores of census metropolitan areas (CMAs).[4] The resulting low residential densities and sprawl have major implications for urban transportation, the environment, the economy and health. Sprawl increases the distances people travel, boosting

2 NRTEE, *Sustainable Transportation*, p. 9.

3 Transport Canada, *Creating a Transportation Blueprint*. The government's blueprint initiative culminated in the publication in early 2003 of the Transport Canada strategic policy document *Straight Ahead—A Vision for Transportation in Canada*.

4 Transportation Association of Canada, *Urban Transportation Indicators* V I, p. 14. The existing urbanized area contains the majority of the CMA or urban region's population.

demand for road infrastructure. Low-density land use undermines the feasibility of cost-effectivemunicipal services and public transportation, and limits the potential for alternatives such as walking and cycling.[5]

Further exacerbating the urban transportation problems is the phenomenon of "employment sprawl." Not only are people choosing to live in suburbs, but they are also working there. Traditional commuting patterns were based on people travelling to work downtown, making it relatively simple to plan for transit services. Today, however, central business districts in Canada account for only 20 per cent of total urban region employment—a percentage that is decreasing as jobs decentralize throughout urban regions.[6]

**Not only are people choosing to live in suburbs, but they are also working there.**

While the need for greater integration of land use and transportation planning is widely recognized, achieving this goal has proven difficult for cities worldwide. In Canada, most big cities aim to support public transit by linking land use and transportation planning with higher density residential and commercial development. Nevertheless, policy initiatives aimed specifically at more sustainable land use have had a disappointing track record.[7]

Elsewhere around the world, cities with the greatest success in transit usage are those with high densities in the central area or with denser mixed-use growth in suburban centres.[8] No large cities have taken full advantage of the potential of land use policies to contain low-density sprawl, to reduce the need to travel through mixed-use development, or to increase public transit usage by means of transit-oriented development. However, significant progress has been made in Barcelona, Singapore and Tokyo, where new transit lines are generally keeping pace with development and where reliance on public subsidies is at its lowest.[9]

In Canada, the pursuit of integrated land use and transportation planning is perhaps nowhere more important than in Ontario's Greater Golden Horseshoe, one of the country's largest and fastest-growing regions. Efforts in the 1970s to alter land use policies to contain low-density sprawl in this region were unsuccessful. In 2005, the provincial government examined the implications of forecast population growth and proposed a strategic growth management plan to promote growth patterns that would create high-density communities, curb low-density sprawl, decrease reliance on cars and thereby reduce traffic gridlock, making the transportation of goods and people more efficient.[10]

**Significant progress has been made in Barcelona, Singapore and Tokyo, where new transit lines are generally keeping pace with development.**

As commuters travel from one municipality to another, the issue of jurisdictional boundaries further complicates the management of urban transportation systems, pointing to the need for regional transportation systems. In Canada, British Columbia is the acknowledged leader on this front, having created the Greater Vancouver Transportation Authority (GVTA) in 1998. The GVTA, also known as TransLink, is based on an integrated approach to managing and operating the regional transportation system; it oversees transit, roads, transportation demand management and air quality. A recent Conference Board of Canada report found that, in most respects, TransLink represents a model for the type of regional governance agency well suited to this country's situation, and that it could be adopted more widely to address Canadian

5 Commission for Integrated Transport, *World Cities Report*, pp. 3–10. The World Cities Research project examined trends in population, land use, automobile dependence and related factors affecting urban transport, along with strategies being employed in managing transport demand, for the following selected cities: London, Paris, New York, Tokyo ( world cities ); Barcelona, Madrid, Moscow, Singapore (other large cities with populations over 3 million); Dublin, Lyon, Nottingham, Perth, Rome and Zurich (medium-sized cities with populations ranging from 700,000 to 2.8 million).

6 Transportation Association of Canada, *Urban Transportation Indicators* V I, p. 16.

7 Ibid., p. 28.

8 Commission for Integrated Transport, *World Cities Report*, p. 16.

9 Ibid., pp. 1–2.

10 See Ontario's *Places to Grow Act* and *Greenbelt Act*.

urban transportation needs and issues.[11] In March 2007, an independent review panel recommended that TransLink be overhauled to cover a wider area of the Lower Mainland, be funded differently, and change its governance model to include a professional board of directors and an independent commissioner.[12]

**Canada's urban transit systems must rely heavily on revenue from fares, as government subsidies are proportionately lower than in Europe and the United States.**

## TRANSPORTATION INFRASTRUCTURE

Urban infrastructure in Canada today is suffering the consequences of a long period of public disinvestment. Between 1955 and 1977, new investment in infrastructure kept pace with Canada's growing population and increasing urbanization, growing by 4.8 per cent annually. Between 1978 and 2000, however, new investment saw a drastic slump, growing, on average, by a miniscule 0.1 per cent per year.[13]

As a result, Canada's urban areas now face massive public infrastructure investment needs for maintenance, renewal and expansion to accommodate growth. In 2003, estimates of the Canadian infrastructure gap ranged from a low of $50 billion to a high of $125 billion.[14] More specific estimates for urban transit show a need for approximately $22 billion between 2004 and 2013, according to the 2005 report of the Urban Transportation Task Force of the Council of Deputy Ministers Responsible for Transportation and Highway Safety. This amount covers investments in maintenance, renewal and system expansion for conventional transit infrastructure, vehicles and technology; but it does not include costs for establishing new transit systems or for specialized transit. Investment needs for roads and bridges—whether municipally or provincially owned—are estimated to total more than $66 billion over the same period.[15] Stakeholders and governments agree that Canada's urban infrastructure needs far exceed the capacity of the country's traditional revenue sources. To address the infrastructure gap, we require new sources of funding and alternative methods of financing.[16]

Fare box revenues meet 60 per cent of the total operating costs of Canadian transit operations; government subsidies make up the difference.[17] Canada's urban transit systems must rely heavily on revenue from fares, as government subsidies are proportionately lower than in Europe and the United States. Distinctly Canadian is the near absence of federal subsidies for public transit. In general, it is left to municipal (and provincial) governments to cover transit costs in excess of operating revenues—principally from property taxes. Provincial governments, such as Ontario's, often provided significant transit subsidies (rising as high as 75 per cent in the early 1990s); however, the provincial subsidies in Ontario disappeared altogether in 1997.

Today, provincial governments provide a range of direct and indirect supports for public transit, most significantly in British Columbia, Alberta, Quebec and Manitoba. Calgary and Edmonton receive provincial grants based on the amount of motor fuel taxes collected in each city; in Montréal and Vancouver, transit agencies have some access to dedicated revenue sources and the authority to levy charges on motorists.

Both provincial and municipal governments are responsible for almost all of Canada's roads. However, over the past 40 years, the bulk of the responsibility has shifted to municipalities.[18] For the most part, governments treat roads as public goods to be financed out of property and general tax revenues, with most road-user taxes and other charges being added to governments' consolidated accounts. Although road-user taxes and fees are generally not earmarked for roads or transport, there are some

11 CBoC, *Canada's Transportation Infrastructure*.

12 Jones, "Province signs off on major TransLink overhauls."

13 FCM, *Federal Funding Support for Infrastructure*, p. 6.

14 Mirza and Haider, *The State of Infrastructure*; The Canadian Society for Civil Engineering, *Critical Condition*.

15 The Urban Transportation Task Force, *Urban Transportation in Canada*, pp. 9–13.

16 Vander Ploeg, *New Tools for New Times*.

17 The Canadian Urban Transit Association, *Canadian Transit Fact Book,* p. G-13.

18 Gaudreault and Lemire, *The Age of Public Infrastructure*, pp. 7–8.

notable exceptions.[19] At the federal level, the government has always collected much more from road users than it has spent on roads—a matter of some controversy. In recent years, the government has collected approximately $4 billion annually in road fuel taxes, but spent only 10 per cent of this on roads.[20] In 2004, the federal government began preparing agreements with each province and territory for sharing federal fuel tax revenues; however, there is no requirement for these funds to be used to support alternative or sustainable transportation infrastructure.

**At the federal level, the government has always collected much more from road users than it has spent on roads—a matter of some controversy.**

Road pricing or "tolling" is one way to help fund infrastructure, control congestion, reduce environmental damage and facilitate public–private partnerships. In many countries, road pricing is becoming increasingly accepted as both necessary and useful.[21] In Canada, however, user fees, or tolls, are an under-exploited source of road financing. In 2001, the Canada Transportation Act Review Panel described road policy in Canada as nothing less than "dysfunctional" and in need of "radical reform,"[22] with the issue of how to pay for roads seen as the core of the problem. The Panel advocated paying for roads through efficient user charges to cover infrastructure and externality costs, and recommended establishing autonomous user-funded transportation agencies based on the World Bank/New Zealand model. (The 1992 Royal Commission on National Passenger Transportation also recommended the New Zealand model for Canada.)

Recently, the federal government signalled its interest in exploring new arrangements for roads and transit —including road pricing—with the provinces and territories.[23] It has also launched, with the support of the provinces and territories, a multi-year study to determine the full financial and social costs associated with infrastructure, vehicles and the movement of people and goods.[24]

The provinces and territories have estimated that the federal government will have $32.9 billion of unallocated fuel tax revenue available over the next 10 years and propose that this be committed to a new Strategic Transportation Infrastructure Fund.[25] As already noted, in the 2007 budget, the federal government extended some further funding from the gas tax and the Building Canada Fund to support provincial, territorial and municipal infrastructure over the next seven years. However, Canada's infrastructure deficit is so large that government funding by itself will not take care of the problem. Road pricing and public–private partnerships are alternative sources of revenue that could contribute to reducing the infrastructure deficit.[26]

## PUBLIC TRANSIT

In recent decades, broad transportation policy in Canada has shifted toward deregulation, privatization, commercialization and subsidy reduction. But urban transit is still delivered mostly by municipal agencies and funded mainly

19 These include four toll facilities: the Coquihalla highway in British Columbia; Highway 407 in Ontario; the Confederation Bridge between New Brunswick and P.E.I.; and the Cobequid Pass section of Highway 104 in Nova Scotia. There is also some limited use made of road funds with dedicated revenue sources in British Columbia and Saskatchewan. In Alberta, some funds are allocated for transportation projects in Edmonton and Calgary based on gasoline sales in these cities, with the cities responsible for determining priorities relative to roads and transit.

20 See Transport Canada, *Transportation in Canada 2004*, Tables 3–4 and 3–5, pp. 16–17.

21 Stockholm, for example, is the latest city to begin tolling with its program that began in 2006. Also, the U.K. and the Netherlands are planning to introduce multi-city systems in the next several years. See Solomon, "Stockholm Tries Tolls to Curb Use of Cars."

22 Canada Transportation Act Review Panel, *Vision and Balance*, pp. 193–194.

23 Transport Canada, *Straight Ahead*, pp. 52–53; Transport Canada, *Backgrounder: Straight Ahead,* p. 8.

24 See Transport Canada, "The Full Cost."

25 There are examples in many countries of special transportation funds, including the U.S. Highway Trust Fund, which is the best known to Canadians and often advocated as the model to be copied. However, as noted in the Conference Board report *Canada's Transportation Infrastructure Challenge*, there are several important drawbacks to this fund and the U.S.'s approach to determining how these funds are spent. This is not the model that Canada should seek to copy.

26 See box "Public–Private Partnerships" in Chapter 6 of *Mission Possible: Successful Canadian Cities* for a discussion of the potential use of public–private partnerships in Canada.

through direct subsidies. In contrast to other transport modes, most public transit has experienced deteriorating trends in per capita ridership, productivity and unit operating costs.[27] Transit service, as reflected in vehicle kilometres, grew nearly two and a half times between the early 1960s and the late 1980s, and then levelled out in the 1990s.[28] Transit subsidies increased in real terms from less than $100 million annually in the early 1970s to more than $1.5 billion by the end of the 1980s (in constant 1998 dollars); they continued to increase through most of the 1990s, reaching $2.4 billion in 1998 before declining slightly to $2.2 billion in 1999.[29]

> Changes in public transit usage from 1986 to 2001 in the Greater Toronto Area and Hamilton: "While population grew by 34%, peak period transit ridership was static. As a result, the transit modal split dropped from 25% to 18%, a severe loss in market share. This, in turn, contributed to an explosive growth in auto traffic. . . . Data indicate that the rapid rate and dispersed pattern of population and employment growth are the underlying challenges[.]"[30]

Canada's three largest cities—Toronto, Montréal and Vancouver—have inter-regional commuter rail services that have been successful in increasing ridership, primarily by appealing to car commuters.[31] Over the past decade alone, the number of commuter rail passengers in Ontario, Quebec and British Columbia has more than doubled, reaching an estimated 54.9 million in 2004.[32] However, the growth in passengers and service has also raised concerns about the broader environmental impacts and the contribution to urban sprawl (because of a failure to coordinate land use and transportation planning).[33]

**Canada's three largest cities—Toronto, Montréal and Vancouver—have inter-regional commuter rail services that have been successful in increasing ridership, primarily by appealing to car commuters.**

Additionally, as cities develop and grow into knowledge-based economies, linking people to other national and international centres of knowledge is becoming increasingly crucial. Airports have become an integral aspect of urban development and must be included in development plans for transportation infrastructure and fully integrated into regional systems. One shining example is the Canada Line in Vancouver; once it is built and operational, it will provide a direct rapid-transit connection from the city centre to the airport—the only one of its kind in the country.[34] Airports also need continuous improvements and expansions to keep up with the growth in passenger travel. Inter-city transportation must also become more rapid and efficient—particularly in the heavily populated areas such as the Québec City–Windsor, Montréal–Boston–New York, Vancouver–Seattle–San Francisco and Toronto–Chicago corridors—to help reduce automobile dependence and the environmental impacts of fossil fuel consumption. (See box "The Case for High-Speed Rail in Canada's Key Inter-City Corridors.")

Improving public transportation and making it an attractive alternative must have a central place in any strategy aimed at making urban transportation more sustainable. Cities around the world have been investing heavily to improve public transit, adding commuter

27 Canada Transportation Act Review Panel, *Vision and Balance*, pp. 219–220.

28 Ibid., p. 218. Service as measured by revenue vehicle hours was also roughly constant in the 1990s, as shown in McCormick Rankin Corporation, *Urban Transit in Canada*, p. 28.

29 Canada Transportation Act Review Panel, *Vision and Balance*, pp. 218–219.

30 Toronto City Summit Alliance, "Transit and Transport Infrastructure."

31 Soberman, *Public Transportation in Canadian Municipalities*, p. 36.

32 Transport Canada, *Transportation in Canada 2004*, Addendum, Table A6-30; The Railway Association of Canada, *Railway Trends* 2005, p. 24.

33 Aubin, "Are Commuter Trains the Way to Go?" highlights this issue in relation to the latest plans for expanding commuter rail services in the Montréal region.

34 The Canada Line will be an automated 19-kilometre, rail-based rapid transit service connecting Vancouver with central Richmond and the Vancouver International Airport. It will link growing residential, business, health care, educational and other centres in the region and add transit capacity equivalent to 10 major road lanes.

## The Case for High-Speed Rail in Canada's Key Inter-City Corridors

The vast majority of inter-city travel in Canada is conducted in private cars; air travel accounts for over half of the remaining inter-city trips. In recent decades, road and air travel—the two modes with the worst congestion and pollution problems—have received the most public attention and funding.

### A BETTER BALANCE

According to Transport 2000, all modes of transportation must be supported to create a balanced, efficient national transportation network. Unfortunately, inter-city rail travel in Canada has been under-funded and underdeveloped, even though it can potentially draw people away from their cars in large numbers. People are interested in more convenient transportation alternatives and are willing to take trains—if they are faster and more reliable than cars.

High-speed service between major centres must be an integral part of an improved national passenger rail system. A high-speed rail service would provide a number of environmental, economic and quality-of-life benefits. It would help:

- reduce highway use, accidents and environmentally harmful short-haul air traffic and airport congestion;
- ease existing and future air and roadway congestion within high-traffic corridors;
- reduce overall emissions per passenger mile;
- improve transportation choices and increase mobility; and
- encourage growth and investment in key economic corridors.

### VIABILITY

Any high-speed rail service must be able to demonstrate commercial viability. This measure is determined by population densities, passenger travel patterns and competitive comparisons with alternative forms of transportation—such as air or motor vehicle travel—based on travel times and costs.

Interest in developing high-speed rail links for two major Canadian inter-city transportation corridors—Calgary–Edmonton and Québec City–Windsor—date back to the late 1970s. A number of reviews were conducted, but either the projects were considered premature (due to high costs and low demand) or there was insufficient political interest.

Over the last five years, several developments have renewed interest in re-examining the feasibility of high-speed rail links in these corridors.

- The urban regions in the Calgary–Edmonton and Québec City–Windsor corridors are experiencing strong economic and population growth (real and projected), with a significant increase in the volume of passengers travelling between cities within each region for both business and personal reasons.
- Automobile usage continues to grow more rapidly than the capacity of the existing highway network. Road traffic congestion has become a major problem in both these corridors.
- Environmental issues have moved into the mainstream, informing political, economic and social decision-making at all levels. Concerns about global warming, greenhouse gas emissions and land use have raised public awareness about the environmental, economic and social long-term impacts of emissions arising from automobile use and air travel.
- Recent advances in rail infrastructure and other technologies could potentially reduce the capital and operating costs.

### . . . IN THE WEST

According to a pre-feasibility study conducted by The Van Horne Institute in 2004, a Calgary–Edmonton high-speed rail service would be economically and technologically viable; would generate sufficient demand; and would provide quantifiable socio-economic benefits—such as reduced travel time, traffic accidents and carbon emissions—that would range from $3.7 billion to $6.1 billion over 30 years. The study looked at a few possible options:

- Upgrading the existing CPR line to permit mixed freight and high-speed passenger rail service would cut travel time for the 310-km route to two hours 10 minutes, with a capital price tag of approximately $1.7 billion.
- Constructing a largely new, dedicated high-speed rail service with either JetTrain technology or electrified "train à grande vitesse" (TGV)-type trains would cut travel time to a maximum of one hour 30 minutes and would cost between $2.6 billion and $3.4 billion.

*(cont'd on next page)*

**The Case for High-Speed Rail in Canada's Key Inter-City Corridors** *(cont'd)*

**. . . IN THE EAST**

VIA Rail Canada examined the feasibility of a similar high-speed rail service (VIAFast) for the Québec City–Windsor corridor and arrived at a capital cost estimate of $3 billion.[1] It proposed upgrading the existing rail line and having a high-speed passenger service share the infrastructure with freight transportation.

Using the costs per kilometre provided by The Van Horne Institute study as a rough guide, preliminary estimates would suggest that the capital cost for a Montréal–Toronto high-speed rail service could be as low as $3 billion for an upgraded rail corridor shared with freight, or $5 billion to $6 billion for a dedicated high-speed passenger rail corridor. Given the projected growth in population and economic activity within the corridor, as well as the tendency for high-speed rail to generate an increase in passenger trips over and above that associated with population growth, a high-speed rail service for the Montréal–Toronto corridor could also be commercially feasible.

**GOVERNMENT SUPPORT BASED ON FULL-COST ANALYSIS**

Few high-speed rail projects are commercially viable without at least limited state support for the infrastructure investment or for the ongoing operation of the rail services.[2] This is the case even in Japan and Europe, where population densities are typically higher than in Canada.

Decisions about the level of state support need to be based on feasibility studies that quantify all costs and benefits (both socio-economic and commercial) over the life of the project.

The time has come to undertake full feasibility analyses for both of these important corridors. Federal and provincial governments must seriously consider high-speed rail transport as a partial alternative to road and air travel.

1 Railway Technology, "Quebec Windsor Corridor, Canada." [Cited April 2, 2007.] www.railway-technology.com/projects/quebec.

2 New high-speed rail projects seldom generate returns that are sufficient to cover all the project outlays including capital and operating costs over the life of the rail service. The fact that some high-speed rail services are profitable at certain points in time is usually attributable, at least in part, to their reliance on depreciated infrastructure assets.

Sources: The Conference Board of Canada; Transport 2000; The Van Horne Institute.

rail systems, subway and light rail systems, and bus fleets. Improvements can take many forms, including new systems, new routes, increased frequency, reserved lanes, parking restrictions, better enforcement and better public information and communications. Some of these options are capital-intensive, while others require modest investment.[35]

In Canada, urban transit investment has often focused on rehabilitation, driven by the need to prolong the life of existing infrastructure. Most operators have also invested incrementally in specific infrastructure, information technology and transit priority measures at key locations to enhance transit's attractiveness for targeted customers or to improve system performance in well-defined areas. Essentially, limited funds have placed severe constraints on investments in urban transit. Many transit operators have made do with refurbishing old equipment; others have had to defer infrastructure maintenance altogether. This has led to congestion, unreliable service and sometimes even unsafe conditions. Most operators have barely addressed the critical need for investment in new technology—such as advanced fare-collection systems, automatic vehicle location and control systems and customer information systems.[36]

Public transit solutions that focus exclusively on large, capital-intensive projects often lead decision-makers to overlook non-capital-intensive initiatives. Indeed, a bias in favour of capital-intensive solutions is encouraged by

35 Soberman has developed a schematic that places transit improvements and priority, along with land use planning, road improvements and parking policies, into a broad context of the "building blocks" of effective urban transportation. Each measure is identified as being capital intensive, requiring modest investment or requiring only a policy initiative. Soberman, "Characteristics of Effective Urban Transportation."

36 Soberman, *Public Transportation in Canadian Municipalities*, pp. 33–34.

the availability of cost-based matching funds from governments, which create incentives for inefficient mega-projects. Some of the big, expensive projects in the U.S. (and perhaps in Canada as well) have been of questionable value in achieving the goals of deterring car use and increasing transit ridership.[37] As one expert notes, "Such projects have much higher political profile, appear to be more indicative of accomplishment than operational improvements, and are hotly pursued by the commercial interests of suppliers, contractors and consultants, as well as the aspirations of established bureaucracies."[38]

Transit ridership is induced mainly by service, frequency and convenience—all of which can often be improved cost-effectively through operational measures (e.g., higher priority for transit vehicles on roads, or collector vehicles to convey passengers from low-density areas to mass transit access points). For these reasons, operational improvements should be pursued wherever feasible. Municipalities (and potential funding partners at other levels of government) should assess whether proposed large investments in public transit can increase ridership, enhance access to poorly served populated areas, be coherent with land use planning, and control costs.[39]

## ENERGY USE AND POLLUTION

Urban transportation has significant environmental impacts—largely related to fuel consumption. Nearly all fuel comes from non-renewable resources using production processes that release high levels of greenhouse gas (GHG) emissions and other pollutants. According to the recently released 2006 edition of Statistics Canada's *Human Activity and the Environment*, in 2004, transportation activities generated more than one-quarter of Canada's GHG emissions and accounted for 28 per cent of their growth from 1990 to 2004.[40] The growing use of heavy-duty trucks to move goods and the shift toward greater personal use of light trucks (such as vans and sport-utility vehicles) have put upward pressure on GHG emissions and limited the decline of smog-forming pollutants. Between 1990 and 2004, road vehicles contributed to 86 per cent of the growth in emissions from transportation. In 2004, transportation also consumed nearly one-third of all energy used in Canada. If the trend continues over the next 25 years, a 40 per cent growth in fossil fuel consumption will be needed to support current patterns of transportation.[41] In 2001, estimated GHG emissions from gasoline use in Canada's urban regions were 25 per cent higher than in 1991. By 2010, GHG emissions from automobile use in Canada's urban regions could exceed the 1990 level by about 50 per cent.[42]

**Between 1990 and 2004, road vehicles contributed to 86 per cent of the growth in emissions from transportation.**

In addition to producing globally pervasive GHG emissions, transportation also contributes to other sources of local air pollution, known as "criteria air contaminant emissions." Since 1990, locally acting air pollutant emissions from transportation (including the main elements that contribute to smog) have shown a downward trend, largely because of federal regulations aimed at reducing the impacts of smog and acid rain.[43] Nevertheless, the status of ground-level ozone (the main component of urban smog) has shown little change and is of particular concern in the Windsor–Québec City corridor, the southern Atlantic region and the Lower Fraser Valley of British Columbia.[44]

Vehicle fuel efficiency is a key determinant of energy use in transportation. While automotive technology and fuel have become cleaner, these advances are being largely negated by Canadians' choices about where and how to travel.[45] Since the mid-1980s, there has been a slight increase in the average fuel intensity of vehicles sold,

37 Canada Transportation Act Review Panel, *Vision and Balance*, pp. 223–224.

38 Soberman, *Public Transportation in Canadian Municipalities*, p. 6.

39 Soberman, "Characteristics of Effective Transportation."

40 Statistics Canada, *Human Activity and the Environment.*

41 NRTEE, *Sustainable Transportation*, p. 4.

42 Transportation Association of Canada, *Urban Transportation Indicators* V I, p. 44.

43 Transport Canada, *Transportation in Canada 2004*, Figure 5–4, p. 37.

44 Environment Canada, "Urban Air Quality."

45 Urban Transportation Task Force, *Urban Transportation in Canada*, p. 5.

mostly because of the growing popularity of SUVs, minivans and pickup trucks.[46] Since the late-1980s, there has also been a sharp increase in both the weight and power of new passenger cars and light-duty trucks.[47]

Experts generally agree that a sustainable transportation strategy must include tactics to mitigate the environmental effects of fuel consumption. The Centre for Sustainable Transportation recommends a set of short- , medium- and longer-term strategies: the short term—by improving the energy efficiency of trucking by increasing load factors; the medium term—by reducing passenger vehicle fuel intensity through incentives to purchase lighter, less powerful vehicles; and the longer term—by promoting greater use of tethered vehicles (electrically powered trains, streetcars and electrified buses where energy is fed via wire or rail) in public transport.[48]

**Improving the viability of public transportation is not enough—on its own—to guarantee the changes that are essential to achieving sustainable urban transportation.**

### CONGESTION

Congestion is a major problem in many urban areas. It increases energy use, air pollution, GHG emissions and accident risk, not to mention the time people spend in cars instead of in leisure or productive activities. It harms the competitiveness of urban centres and the national economy by delaying the movement of goods and people and by increasing transportation costs. Measuring congestion costs is complicated, but by any estimate they are substantial.[49] A recent calculation conservatively set the aggregate annual costs for Canada's nine largest urban areas at $2.3 billion to $3.7 billion (in 2002 dollar values). Factors considered include the values of lost time to automobile users (90 per cent of the costs), fuel consumed (7 per cent of the costs) and GHG (3 per cent of the costs) under congested conditions.[50]

Improving the viability of public transportation is not enough—on its own—to guarantee the changes in travel behaviour that are essential to achieving sustainable urban transportation. Incentives to leave the car at home need to be combined with disincentives to use the car. (See box "Congestion Charges U.K.-Style: Would They Work in Canadian Cities?") Efforts to discourage car use are, however, problematic. The most effective approaches—including regulatory measures such as parking restrictions and pricing measures such as road tolls—are also the most difficult to sell and implement.

An analysis of common traffic options shows that various measures are not mutually exclusive and may be combined to increase effectiveness or offset deficiencies.[51] (See Table 1.) As an example, Singapore offers a comprehensive approach that includes car ownership controls, permits that allow some vehicles to be used on weekends only, parking controls and road pricing.[52]

## ENHANCING URBAN FREIGHT TRANSPORTATION

In a world economy dominated by global supply chains and international trade, urban goods transport has burgeoned, as have the associated congestion, energy consumption and safety problems. Urban freight transportation includes traffic related to wholesale and retail trade, construction and demolition, materials for reuse and recycling, transportation of raw and semi-finished materials, and through-shipments. Although freight transportation activity is highly concentrated in urban areas, the related environmental and policy challenges have received less attention than those associated with public transit.

46 The fuel efficiency standards for light trucks, including those sold for personal use, are lower than those for regular automobiles.

47 The Centre for Sustainable Transportation, *Sustainable Transportation Monitor*, p. 10.

48 Ibid. The first part of this report reviews the evidence concerning world crude oil and North American natural gas production trends and when these might peak.

49 Waters II and von Wartburg, "Measuring Congestion Costs," pp. 379–382.

50 Transport Canada, *The Cost of Urban Congestion*. Because of insufficient data, other factors such as freight movements and air pollutant emissions were not included, and the cost estimates reported are therefore low.

51 Ibid.

52 Ibid., pp. 7–8.

Urban freight transport relies heavily, though not exclusively, on trucks—which haul approximately 2 billion tonnes of freight per year in and through urban areas (or between 45 and 73 tonnes of freight per person, per year).[53] Although urban areas have undoubtedly become the main destinations and points of origin and transfer for most freight shipments, national data on intra-urban shipments are practically non-existent.[54]

**Efficient organization of urban freight transportation has become crucial for both successful business management and sustainable development.**

A report produced by the Organisation for Economic Co-operation and Development (OECD) in 2003 emphasized the importance of finding sustainable solutions to the growing problems associated with urban goods movement.[55] Efficient organization of urban freight transportation has become crucial for both successful business management and sustainable development. As businesses aim to improve the flow of their supply chains and optimize their logistics, urban goods transport has become increasingly integrated with long-haul transportation and global supply chains. Efforts are underway in some countries to find more sustainable solutions using inter-modal transport, but requirements for just-in-time deliveries make this challenging. The report concludes that local governments alone cannot create a sustainable urban goods transportation system; rather, national and state or provincial governments must also contribute.

In Canada, the rapid rise of trade with China and resultant freight congestion throughout British Columbia's Lower Mainland prompted the federal government to unveil a new Pacific Gateway Strategy in 2005. The draft *Pacific Gateway Act* was tabled to address challenges arising from

53 Transport Canada, *Truck Activity in Canada*, p. 9.

54 Transportation Association of Canada, *Urban Transportation Indicators* V I, pp. 23 24; The Centre for Sustainable Transportation, *Sustainable Transportation Monitor*, pp. 3–4.

55 OECD, *Delivering the Goods*, pp. 7–15. The focus of the report is on delivery of retail goods, albeit within the wider context of all goods traffic occurring in the urban environment.

### Congestion Charges U.K.-Style: Would They Work in Canadian Cities?

Congestion is plaguing Canada's largest cities, threatening their economic efficiency and competitiveness. Canadian commuters spend an average of 63 minutes per day getting to and from their places of work, up 17 per cent from 13 years ago—the equivalent of one extra workweek per year. Daily commute times in Toronto now average one hour and 20 minutes; in Calgary the average daily commute time is more than one hour, and in Montréal it is 76 minutes. Public frustrations have reached a tipping point, pushing politicians and urban transit planners to consider congestion charging—charging drivers to bring vehicles into a designated urban area—as an answer to congestion problems in Canada's urban areas. Many point to London, England, as proof that this strategy can both decrease congestion and augment funds for public transit.

Introduced early in 2003, congestion charging in London required private vehicles entering the central core of London on weekdays to pay £5 (CDN$12.50 at the time). The success of this bold experiment led to a recent increase in the fee to £8 (CDN$17.70 today) and a proposal to extend the congestion charge zone. Traffic reductions achieved within the first six months of the charge's inception have been maintained; congestion overall is down by 30 per cent, while traffic volumes are down by 18 per cent. Better yet, most commuters who stopped driving downtown shifted to public transit. An estimated £90 million (CDN$199 million) net profit in 2004–05 has been reinvested in improving bus services.

However, congestion charging is just one tool—not a cure; and it may not always be the right tool. A bold decision in one city may prove reckless in another. Just how effective and appropriate congestion charging will be depends on five factors:

- **Commuting** patterns that bring high volumes of people into a dense urban core.
- **Public transit** infrastructure that can accommodate a large shift from cars to other modes of transport.
- **Commuter behaviour** that supports a shift in modal choice.
- **Business support** based on evidence that congestion charging would have a positive or negligible impact on commerce.
- **Public attitudes** that tolerate congestion charging.

Would congestion charges work in Vancouver, Calgary, Toronto, Ottawa or Montréal? A just-released study has proposed congestion pricing (in conjunction with radical changes in land use and urban form and substantial new investments in transit infrastructure) as part of the solution to transportation gridlock in the Greater Toronto Area.[1] It would be premature to choose this tool now—for any city—without first assessing the factors (listed above) that determine its usefulness.

1 Soberman et al., *Transportation Challenges*, p. 48.

Sources: Transport for London, "Congestion Charging"; Cappe, "Breaking Gridlock"; *CAA, Roads and Highways;* Soberman et al., *Transportation Challenges.*

**Table 1**
Contribution of Traffic Restraint Measures to Key Objectives

| | Objective | | |
|---|---|---|---|
| **Measure** | **Congestion relief** | **Environment, safety, sustainability** | **Revenue generation** |
| **Ownership Restraint** | | | |
| Regulatory | 0 | ++ | X |
| Fiscal | 0 | ++ | +++ |
| **Parking Restraint*** | | | |
| Regulatory | X | +? | X |
| Physical | X | +? | 0 |
| Fiscal | ++ | ++ | ++ |
| **Moving Vehicle Restraint** | | | |
| Regulatory | +++ | +++ | ++ |
| Physical | X | +? | 0 |
| Fiscal | | | |
| Fuel taxes | 0 | +++ | +++ |
| Road pricing | +++ | +++ | +++ |

**Key:**
+ Positive impact
X Negative impact
0 No impact
? Uncertain impact
*Assuming comprehensive control

Source: May, "Making the Links", Table 1, p. 7.

the projected Canada–Asia trade growth.[56] Although the defeat of the Liberal government in November 2005 halted its enactment, the initiative has the support of the Conservative government.[57]

Local governments alone cannot create a sustainable urban goods transportation system; national and provincial governments must also contribute.

Initiatives are also underway in several other regions to promote multi-stakeholder gateway and corridor concepts.[58] Given Canada's dependence on trade, the efficient functioning of Canada's trade gateways and corridors is essential to national prosperity. The federal government intends that the Pacific Gateway Strategy will establish the principles for a future national policy framework on strategic gateways and trade corridors and related measures.

## IMPLEMENTATION CHALLENGES

Great strides have been made globally in determining the strategies and measures needed to improve urban

56 Transport Canada, *Government of Canada Announces Pacific Gateway Strategy*.

57 See The Conservative Party, "Harper Pledges Support for Pacific Gateway." The British Columbia government has also launched its own $12.1-billion Asia Pacific Gateway Initiative; see Asia Pacific Foundation of Canada, "A Brief History of Canada's Pacific Gateway."

58 These include the Inter-Regional Goods Transportation Committee in Montréal, the Halifax Gateway Council, the Southern Ontario Gateway Council together with infrastructure initiatives in the Windsor area, and the Manitoba Corridor Strategy.

transportation systems, yet meaningful change is slow to occur. Implementation barriers block progress. A study commissioned by the European Conference of Ministers of Transport has identified a number of obstacles and offered ways to improve the implementation of sustainable policies.[59] Highly relevant to Canada, these barriers include:

- the lack of a national policy framework for sustainable urban travel;
- poor policy integration and coordination;
- inefficient or counterproductive institutional roles and procedures;
- public, lobby and press resistance to policies;
- unsupportive legal or regulatory frameworks;
- weaknesses in the pricing/fiscal framework;
- misguided financing and investment flows;
- poor data quality and quantity; and
- wavering political commitment.

The study also makes several recommendations directed at national governments (summarized in Table 2). In Canada's case, it is clear that most of these could be applied equally well at the provincial and territorial levels.

**Table 2**
Recommendations for National Governments on Improving Implementation of Sustainable Urban Travel Policies

| | |
|---|---|
| Improve institutional coordination and cooperation. | ◆ Develop a national policy framework for sustainable urban travel.<br>◆ Coordinate national policy approaches on urban land use, travel health and the environment.<br>◆ Decentralize responsibilities when possible; centralize when necessary.<br>◆ Provide a consistent integrated framework for national government financing and investment.<br>◆ Consider all modes of travel—in particular, environmentally sustainable modes—as well as land use priorities, when allocating national government funds to the local level. |
| Encourage effective public participation, partnerships and communication. | ◆ Involve the media, advocacy groups and individual clients of the transport system.<br>◆ Seek partnerships with the different stakeholders in the transportation system.<br>◆ Inform and communicate with transport system clients (particularly important for demand management policies). |
| Provide a supportive legal and regulatory framework. | ◆ Ensure that rules and regulations clearly specify the relative roles of public and private sectors.<br>◆ Ensure that transport demand management tools and measures to promote non-motorized modes are supported.<br>◆ Fully integrate air quality, greenhouse gas, noise and other environmental targets, and adopt and rigorously monitor technical standards for vehicles and fuels. |
| Ensure a comprehensive and consistent pricing and fiscal structure, and rationalize financing and investment streams. | ◆ Channel revenues from pricing initiatives so that benefits are felt by those bearing the costs.<br>◆ Allocate funding in a balanced way among different modes.<br>◆ Weigh national investment and financing in capital cities against needs in secondary and tertiary cities. |
| Improve data collection, monitoring and research. | ◆ Improve data collection.<br>◆ Carry out consistent monitoring.<br>◆ Organize and finance research, development and testing of potential solutions. |

Source: European Conference of Ministers of Transport, *Implementing Sustainable Urban Travel Policies*, pp. 45–49.

59 European Conference of Ministers of Transport, Implementing Sustainable Urban Travel Policies.

## RECOMMENDATIONS FOR IMPROVING URBAN TRANSPORTATION

The Conference Board of Canada recommends that:

1. Provincial and municipal governments pursue integrated land use and transportation planning at the local and regional levels, aiming to accommodate growth through intensification rather than low-density sprawl.
2. Provincial and municipal governments develop suitable governance arrangements for urban transportation in areas of multiple jurisdictions.
3. All levels of government incorporate the improvement of the accessibility and efficiency of airports, rail and other methods of inter-city transport into infrastructure development plans.
4. Provincial and municipal governments use a carrot-and-stick approach to promote a shift from cars to more sustainable modes of transportation.
5. A sufficiently dense and extensive public transit network is a necessary prerequisite.
6. Disincentives to automobile use, including regulatory and road pricing measures, will complete the policy framework.
7. Provincial and municipal governments make greater use of alternative sources and methods of funding urban transportation.
8. Provincial and municipal governments and their agencies consider low-cost operational and service improvements to increase transit ridership and efficiency.
9. Business and all levels of government work together to provide incentives for consumers to buy lighter, more fuel-efficient vehicles.
10. Provincial and municipal governments consider pilot programs and other incentives to promote higher load factors (i.e., operating trucks at full load capacity) for private and commercial urban trucking.
11. The federal and provincial governments undertake full feasibility studies for high-speed rail transit in both the Windsor–Québec City and Calgary–Edmonton corridors; and quantify the socio-economic benefits and costs for each project to determine the requisite level of government support.
12. The federal and provincial governments work together to prepare a national urban transportation strategy and consider the recommendations arising from the European Conference of Ministers of Transport.

## APPENDIX A

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## APPENDIX B

# The Canada Project Research and Dialogue Activities

### RESEARCH ACTIVITIES

- Adopt a More Strategic Approach to International Trade
- Building Successful Cities: Lessons from the United Kingdom
- Canada's Hub Cities: A Driving Force of the National Economy
- Clusters of Opportunity, Clusters of Risk
- Course Correction: Advice on Canada's Future Foreign Policy
- Death by a Thousand Paper Cuts: The Effect of Barriers to Competition on Canadian Productivity
- In Search of a New Equilibrium in the Canada–U.S. Relationship
- Is Corporate Canada Being Hollowed Out? It All Depends Where You Are
- Lost Over the Atlantic? The Canada–EU Trade and Investment Relationship
- Open for Business? Canada's Foreign Direct Investment Challenge
- Opportunity Begins at Home: Enhancing Canadian Commercial Services Exports
- Performance and Potential 2003–04: Defining the Canadian Advantage
  - Chapter 2—Explaining the Canada–U.S. Income Gap: What It Is and Why It Matters
  - Chapter 3—Understanding the Impact of Population Ageing: How It Will Affect the Supply of Labour and Health Care Costs
  - Chapter 4—Revitalizing Canadian Foreign Policy: Carving Out a New Role
  - Chapter 5—Assessing Canada's Fiscal Capacity to 2015: Tough Choices Remain
- Performance and Potential 2004–05: How Can Canada Prosper in Tomorrow's World?
  - Chapter 2—The Canada–U.S. Productivity Gap: Deepening Our Understanding
  - Chapter 3—Canadian Trade: Scenarios and Policy Options in an Insecure World
  - Chapter 4—Foreign Direct Investment: Ins, Outs and Implications for Canada
  - Chapter 5—Immigration: A New Deal for Newcomers
  - Chapter 6—Canada's Cities: In Need of a New Fiscal Framework
- Performance and Potential 2005–06: The World and Canada—Trends Reshaping Our Future
  - Chapter 2—Making Connections: The New World of Integrative Trade and Canada
  - Chapter 3—Pursuing Sustainability: Global Commodity Trends and Canada
  - Chapter 4—Rethinking the Workforce: Aging Populations and Canada
  - Chapter 5—Facing the Risks: Global Security Trends and Canada
- Sustainability: A Winning Merger of Growth and the Environment

- The Canada Project, Mission Possible: Sustainable Prosperity for Canada:
  - Volume I—Mission Possible: Stellar Canadian Performance in the Global Economy
  - Volume II—Mission Possible: A Canadian Resources Strategy for the Boom and Beyond
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