



INSTITUT C.D. HOWE INSTITUTE

POLICY CONFERENCE REPORT

BUILDING THE FUTURE OF
CANADA'S TRANSPORTATION
INFRASTRUCTURE

DECEMBER 7, 2015



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STATEMENT OF MOTIVATION

Canadian governments are about to embark on major transportation investments. How should policymakers decide how to allocate these staggering amounts of money? There is much talk that governments should invest in infrastructure as an economic stimulus. However, governments should ensure they are investing in the right projects with highest long-run returns, not necessarily the shovel-ready ones. The C.D. Howe Institute's policy conference "Building the Future of Canada's Transportation Infrastructure" looked at what process governments should undertake to determine their investment priorities.

The goal of the conference was to raise the level of debate, offer concrete policy recommendations to senior decision-makers, and ultimately light the way for positive policy impact on Canada's transportation infrastructure investment decisions. The discussion, which focused on investment practices for both large and small projects, was held under the Chatham House Rule. The event was meant to spur further collaboration by identifying fundamental questions and facilitating discussion between parties and sectors who would otherwise not engage with each other.

This report summarises the content of the discussions at the conference. As Canada embarks on a major infrastructure spending program, it is critical to get the business case process and design right. But policymakers must use them to ensure that the best projects go ahead - not to justify decisions they have already made.

Governments at all levels should judiciously apply a business case to all major investments. Those business cases should first clearly define the strategic case that lays out a broad vision of the objectives the investment will address. The projects must also have the proper economic and financial foundations that account for all the benefits – and costs – of an investment. Governments need to have in place clearly defined decision-making rules as well as consistent, government-wide assessment parameters for infrastructure proposals.

The key takeaways from the C.D. Howe Institute's Policy Conference for policymakers are:

1. There needs to be a publicly available business case for all major investment projects;
2. Elected officials should still make the final decisions on infrastructure projects, but engage citizens from start to finish;
3. The business case should be reflected in the final project being built;
4. These business cases should take into account all potential major economic effects; and
5. Policymakers should have – and use – a government-wide business case methodology in place, for example, at the federal Treasury Board, and its provincial counterparts.

CONFERENCE AGENDA

BUILDING THE FUTURE OF CANADA'S TRANSPORTATION INFRASTRUCTURE

C.D. HOWE INSTITUTE SPECIAL POLICY CONFERENCE
MONDAY, DECEMBER 7, 2015, 8:30 AM – 3:00 PM
C.D. HOWE INSTITUTE, 67 YONGE STREET, SUITE 300, TORONTO



CONFERENCE AGENDA

8:30 am – 9:00 am

BREAKFAST RECEPTION AND REGISTRATION

9:00 am – 9:30 am

Welcoming Remarks

Duncan Munn, Senior Vice President and Chief Operating Officer, C.D. Howe Institute
Robert Prichard, Chair, Metrolinx

9:30 am – 10:30 am

Session I – What Might the Evolving Regional Economies Look Like?

What is the region of the future? This session will explore the big picture concepts that Canadians need to consider as we transition into an increasingly urban ecosystem.

Speakers:

- **Bonnie Crombie**, Mayor, City of Mississauga
- **Josh Colle**, Chair, Toronto Transit Commission & Councillor, City of Toronto

Moderator:

- **Enid Slack**, Director, Institute on Municipal Finance and Governance, Munk School of Global Affairs, University of Toronto

10:30 am – 10:45 am

BREAK

10:45 am – 11:45 am

Session II – Transportation in Context: What are the Broader Economic Impacts of Transportation Infrastructure?

This session will examine the impact of transportation infrastructure on the overall economy broadly, and specifically it will explore environmental considerations and the benefits to system users. It will also delve into the effects of clustering and agglomeration on transportation infrastructure. It will show how transportation positively contributes to other sectors. What is the effect of congestion on healthcare and education, for example? And what is the hidden cost of congestion more generally?

Speakers:

- **Benjamin Dachis**, Senior Policy Analyst, C.D. Howe Institute
- **Ilse Treurnicht**, Chief Executive Officer, MaRS Discovery District
- **Cherise Burda**, Director, Ryerson City Building Institute

Moderator:

- **Duncan Munn**, Senior Vice President and Chief Operating Officer, C.D. Howe Institute

11:45 am – 12:30 pm

LUNCH

Presentations and discussions will be closed to media.

CONFERENCE AGENDA

**BUILDING THE FUTURE OF CANADA'S
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CONFERENCE AGENDA CONTINUED

12:30 pm – 1:30 pm Session III – Business Cases: Trust and Transparency in Decision Making

Can we use business cases to introduce trust and transparency into the decision-making process for transportation infrastructure? It will present global best practices and successful case studies from which to draw lessons. It will show how Canadian policymakers can use cost-benefit analysis to make sound choices for funded projects through a framework for developing rigorous business cases for transportation investment.

Speakers:

- **Angela Iannuzziello**, Vice President, Canada National Transit Market Sector Lead, AECOM
- **Carol Layton**, Deputy Minister, Ontario Ministry of Transportation
- **Dwight Duncan**, former Ontario Minister of Finance

Moderator:

- **Daniel Schwanen**, Vice President, Research, C.D. Howe Institute

1:30 pm – 1:45 pm BREAK

1:45 pm – 2:45 pm Session IV: Thinking Ahead: Where Do We Go from Here and How Do We Do It?

This session will close the conference by consolidating the lessons of the day and focusing the discussion on practical solutions for Canada's urban transit systems.

Speakers:

- **Bruce McCuaig**, Chief Executive Officer, Metrolinx
- **Michael Schatz**, Executive Vice President and Managing Director, Hatch Mott MacDonald

Moderator:

- **Daniel Schwanen**, Vice President, Research, C.D. Howe Institute

2:45 pm – 3:00 pm Closing Remarks

Ben Dachis, Senior Policy Analyst, C.D. Howe Institute

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Presentations and discussions will be closed to media.

CONFERENCE POSTER



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SPECIAL POLICY CONFERENCE

BUILDING THE FUTURE OF
CANADA'S TRANSPORTATION
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METROLINX
An agency of the Government of Ontario

PARTICIPANT LIST

**BUILDING THE FUTURE OF CANADA'S
TRANSPORTATION INFRASTRUCTURE
C.D. HOWE INSTITUTE SPECIAL POLICY CONFERENCE**

**MONDAY, DECEMBER 7, 2015, 8:30 AM – 3:00 PM
C.D. HOWE INSTITUTE, 67 YONGE STREET, SUITE 300, TORONTO**



PARTICIPANT LIST

Doug Archibald
Accenture

Upkar Arora
Metrolinx

Antoine Belaeff
Metrolinx

Kanishk Bhatia
Deloitte

Cherise Burda
Ryerson City Building Institute

Chris Burke
Metrolinx

Hollie-Anne Cairns
Treasury Board Secretariat, Ontario

Josh Colle
Toronto Transit Commission

Bonnie Crombie
City of Mississauga

Alden Cuddihey
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C.D. Howe Institute

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Elizabeth Doherty
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Employment & Infrastructure

Mark Darovny
Ontario Ministry of Transportation

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Treasury Board Secretariat, Ontario

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PARTICIPANT LIST

BUILDING THE FUTURE OF CANADA'S TRANSPORTATION INFRASTRUCTURE C.D. HOWE INSTITUTE SPECIAL POLICY CONFERENCE

MONDAY, DECEMBER 7, 2015, 8:30 AM – 3:00 PM
C.D. HOWE INSTITUTE, 67 YONGE STREET, SUITE 300, TORONTO



PARTICIPANT LIST

Heather McConnell
C.D. Howe Institute

Bruce McCuaig
Metrolinx

Duncan Munn
C.D. Howe Institute

Munir Nasser
Accenture

Peter Notaro
City of Toronto

Jay Paleja
City of Toronto

Stephane Paris
C.D. Howe Institute

Greg Percy
GO Transit

Judy Pfeifer
Metrolinx

J. Robert S. Prichard
Torys LLP

David Reese
Partners in Performance

Matt Routley
Ministry of Economic Development
Employment & Infrastructure

Daniel Safayeni
C.D. Howe Institute

Jake Schabas
Metrolinx

Michael Schatz
Hatch Mott MacDonald

Daniel Schwanen
C.D. Howe Institute

Enid Slack
The Munk School of Global Affairs,
University of Toronto

Ilse Treurnicht
MaRS Discovery District

Robert Trewartha
City of Mississauga

Davinder Valeri
KPMG LLP

Katherine Valiquette
Ministry of Economic Development
Employment & Infrastructure

Michael J. Wilson
Accenture

David Wright
Hatch Mott MacDonald

BIOGRAPHIES OF SPEAKERS, HOST AND MODERATORS*

BIOGRAPHIES OF THE SPEAKERS

Welcoming Remarks



DUNCAN MUNN

SENIOR VICE PRESIDENT AND CHIEF OPERATING OFFICER,
C.D. HOWE INSTITUTE

Duncan Munn is Senior Vice President and Chief Operating Officer of the C.D. Howe Institute. He joined the Institute in 2000, holding increasingly senior roles culminating in his appointment as Sr. VP and COO in 2008. He oversees the daily affairs of the Institute as well as initiatives and special projects, and plays a leadership role in the strategic direction of the organization.

He is also the Chair of the Board at Alterna Savings, a full-service financial services firm with \$2 billion in assets under management. He studied at the University of Toronto where he won the Gordon Cressy, JS Woodsworth and Woodsworth Cup award and has previously served a number of organizations in a voluntary leadership capacity including Youth Challenge International (Director), The Etobicoke Easter Seals Society (as Chair) and the George Hull Centre for Children and Families (as a Director).

Apart from his work with the Institute and in the voluntary sector, he has business interests in an investment management firm focused on real estate.



ROBERT PRICHARD

CHAIR, METROLINX

J. Robert S. Prichard is an educator, lawyer and corporate director who has had a varied career in higher education, law, business and public service. At present, he serves as chairman of Torys LLP, the BMO Financial Group and Metrolinx. He is also President Emeritus of the University of Toronto.

Prichard was a professor of law at the University of Toronto from 1976 to 2001, specializing in law and economics. He also taught at the law schools of Yale (1982-83) and Harvard (1983-84 and 2000-01). He served as Dean of the Faculty of Law at the University of Toronto from 1984 to 1990. He was elected as a Fellow of the Royal Society of Canada in 2008 and received the Law School's 2009 Distinguished Alumnus Award.

Continued next page

* All positions and organization affiliations are as of time of conference.

BIOGRAPHIES OF SPEAKERS, HOST AND MODERATORS

BIOGRAPHIES OF THE SPEAKERS

Welcoming Remarks - CONTINUED

ROBERT PRICHARD

CHAIR, METROLINX

CONTINUED

Prichard served as the 13th president of the University of Toronto from 1990 to 2000. He also served as chair of the Council of Ontario Universities, on the boards of the Association of Universities and Colleges of Canada and the International Association of Universities, and on the executive committee of the Association of American Universities. In 2001, Prichard received the David Smith Award for his contributions to public policy in higher education and in 2011 received the Champion of Public Education Award.

Prichard's business sector experience includes serving as president and CEO of Torstar Corporation, a leading Canadian media company with newspaper and book publishing businesses, from 2002 to 2009. He serves as the Chairman of BMO Financial Group and as a director of Onex Corporation and George Weston Ltd (Lead Director). He has previously served on numerous boards including Four Seasons Hotels, Brascan (now Brookfield), Imasco and Moore Corporation.

In the public sector, Prichard serves as chairman of Metrolinx, the regional transportation agency of the Greater Toronto and Hamilton Area, where he served previously as president and CEO from 2009 to 2010. He has also served as a member of both Canada's Economic Advisory Council and Ontario's Economic Advisory Panel.

Prichard serves as a trustee of the Hospital for Sick Children and has previously served on numerous public sector and volunteer boards including chair of the Visiting Committee for Harvard Law School and chair of the Ontario Innovation Trust.

Prichard attended Swarthmore College where he studied economics, earned his MBA at the University of Chicago (Dean's List), and earned law degrees from the University of Toronto (gold medal) and Yale University (Viscount Bennett Fellow). Recognized by appointment as an officer of the Order of Canada and as a member of the Order of Ontario, Prichard has also received honorary degrees from eleven colleges and universities in Canada and the United States.

Prichard is married to Ann E Wilson, a lawyer and artist, and they have three sons: Wilson, Kenneth and John. He is a Canadian and British citizen and lives in Toronto, Canada.

BIOGRAPHIES OF SPEAKERS, HOST AND MODERATORS

BIOGRAPHIES OF THE SPEAKERS

Session I – What Might the Evolving Regional Economies Look Like?



BONNIE CROMBIE
MAYOR, CITY OF MISSISSAUGA

On October 27, 2014, Bonnie Crombie was elected Mayor of Mississauga. Prior to her election as Mayor, Bonnie served as the Ward 5 City Councillor, and previous to that, as Member of Parliament for Mississauga-Streetsville.

Before entering public service, Bonnie enjoyed a twenty-year career in business. Bonnie worked for two Fortune 500 companies, including the Walt Disney Corporation and the McDonald's Corporation. She successfully practiced public affairs at the Insurance Bureau of Canada and was later self-employed as an independent public affairs consultant. Bonnie was also a founding partner of Cargo Cosmetics.

Outside of her work in the public and private sector, Bonnie has an extensive record of community leadership and volunteer service. Former mayor Hazel McCallion asked Bonnie to serve on the Mississauga Mayor's Taskforce on the Arts; Bonnie was subsequently elected as Vice Chair of this working group committed to finding sustainable funding for arts and artists. She has also dedicated her time to various charitable and not-for-profit boards, including: the Credit Valley Hospital Foundation; Peel Region 11th Division Police Community Liaison Committee; the Canadian and Ontario Brain Injury Association; and Arts Umbrella.

Bonnie has an MBA from York University's Schulich School of Business and earned a Corporate Director's Certificate from the Institute of Corporate Directors at the Rotman School of Management. Bonnie attended St. Michael's College at the University of Toronto, earning an Honours Bachelor of Arts in political science and international relations. Bonnie also studied French immersion at the Paris Sorbonne University.

In January 2012, she was awarded the Queen's Diamond Jubilee Medal for her work in the community. She and her husband Brian have raised three children, Alex, Jonathan and Natasha, here in Mississauga. Bonnie speaks conversational French and Polish.

BIOGRAPHIES OF SPEAKERS, HOST AND MODERATORS

BIOGRAPHIES OF THE SPEAKERS

Session I – What Might the Evolving Regional Economies Look Like? - CONTINUED



JOSH COLLE

CHAIR, TORONTO TRANSIT COMMISSION & COUNCILLOR,
CITY OF TORONTO

Josh was elected in October 2010 to represent the area of Ward 15 Eglinton-Lawrence. In addition, he was elected to serve as Chair of the TTC in 2015.

Born and raised in Toronto, Josh brings a wealth of private sector and community experience to City Hall. He has worked in Toronto's financial services sector, the transportation industry, and served as Vice President of an energy and infrastructure firm. He has previously served residents of Eglinton-Lawrence as a school board trustee from 2000 to 2003, is a former Director of 5 Points Community Action residents group, served as Director for an environmental organization, and is President of the St. Michael's College alumni association.

As Ward 15 Councillor at City Hall, Josh sits on a number of committees, boards, and agencies including the North York Community Council, the Community Development and Recreation Committee, Striking Committee, Toronto Arts Council, UrbanArts Community Arts Council, Toronto Music Advisory Council, North Toronto Arena Board and serves as the TTC Chair. In addition, Josh maintains an active presence on the Boards of the York-Eglinton, Fairbank Village, Dufferin-Wingold and Oakwood Village Business Improvement Areas.

Josh obtained an Honours BA in Political Science from McGill University and graduated from St. Michael's College High School at Bathurst & St. Clair. Josh has lived in the Oakwood and Vaughan area for over 30 years, where he continues to reside with his wife and three children.



MODERATED BY ENID SLACK

DIRECTOR, INSTITUTE ON MUNICIPAL FINANCE AND GOVERNANCE

Enid Slack is the Director of the Institute on Municipal Finance and Governance (IMFG) and an Adjunct Professor at the Munk School of Global Affairs at the University of Toronto. The IMFG focuses on the fiscal health and governance challenges facing large cities and city-regions in Canada and around the world. Enid advises governments and international agencies on municipal finance and governance issues in Canada and in countries such as Brazil, Colombia, India, Mexico, Mongolia, the Philippines, South Africa, and Tanzania. She has written extensively on property taxes, intergovernmental transfers, development charges, financing municipal infrastructure, and municipal governance. Enid received a B.A. in Economics from York University (Glendon College), and an M.A. and Ph.D. in Economics from the University of Toronto. In 2012, she was awarded the Queen's Diamond Jubilee Medal for her work on cities.

BIOGRAPHIES OF SPEAKERS, HOST AND MODERATORS

BIOGRAPHIES OF THE SPEAKERS

Session II - Transportation in Context: What are the Broader Economic Impacts of Transportation Infrastructure?



BENJAMIN DACHIS

SENIOR POLICY ANALYST, C.D. HOWE INSTITUTE

Benjamin Dachis is a Senior Policy Analyst at the C.D. Howe Institute. He started with the C.D. Howe Institute in 2006 as a Research Fellow and also has experience with a major U.S. think tank. He returned to the C.D. Howe Institute as a Policy Analyst in January of 2008, becoming a Senior Policy Analyst in 2011.

He has an Honours Bachelor of Arts and a Master of Arts in Economics from the University of Toronto, and a Master of Science in Regional Science from the London School of Economics (LSE). He received the George and Hilda Ormsby Prize for the top MSc dissertation in the Department of Geography and Environment at the LSE. He worked at the Centre for Economic Performance, an interdisciplinary research centre at the LSE. He is currently on the executive committee of the Toronto Chapter of the Canadian Friends of the LSE.

He was a member of the 2012 and 2013 Insight Grants Economics Committee for the Social Sciences and Humanities Research Council of Canada.

He has written on municipal finance, transportation, tax, energy, environmental and labour policy.

ILSE TREURNICHT

CHIEF EXECUTIVE OFFICER, MARS DISCOVERY DISTRICT

Ilse Treurnicht is the CEO of MaRS Discovery District, a leading innovation centre located in Toronto. She oversees both the development and operations of the MaRS Centre and its broad suite of entrepreneurship and innovation programs.

Ilse joined MaRS in early 2005 from her role as President & CEO of Primaxis Technology Ventures, a startup-stage venture capital fund focused on the advanced technologies sector. Prior to Primaxis, she was an entrepreneur with senior management roles in a number of emerging technology companies. Ilse is an active member of Canada's innovation community. She served as Chair of the Canadian Task Force on Social Finance in 2010, and is a member of the Science, Technology and Innovation Council (STIC).

Ilse holds a DPhil in chemistry from Oxford University, which she attended as a Rhodes scholar.



BIOGRAPHIES OF SPEAKERS, HOST AND MODERATORS

BIOGRAPHIES OF THE SPEAKERS

Session II - Transportation in Context: What are the Broader Economic Impacts of Transportation Infrastructure? - CONTINUED



CHERISE BURDA
DIRECTOR, RYERSON CITY BUILDING INSTITUTE

Cherise Burda is Executive Director of the Ryerson City Building Institute, which addresses critical urban challenges through teaching, research and public engagement on urban issues.

Prior to assuming this role, Cherise was the Ontario Director of the Pembina Institute, Canada's leading clean energy think-and-do tank, where she led a team of experts conducting research, advocacy and communications strategies for transportation, sustainable cities and clean energy solutions in Ontario. She has authored dozens of publications on these issues and in 2013 Cherise was appointed the Premier of Ontario's transit investment strategy.

Before returning to Toronto in 2006, Cherise spent over a decade in British Columbia where she held roles as senior researcher at University of Victoria's Polis Project at the Faculty of Law and a program director for the David Suzuki Foundation. She holds an M.A. in environmental legislation and policy, a BSc. in environmental science and a B.Ed.

MODERATED BY
DUNCAN MUNN
SENIOR VICE PRESIDENT AND CHIEF OPERATING OFFICER

BIOGRAPHIES OF SPEAKERS, HOST AND MODERATORS

BIOGRAPHIES OF THE SPEAKERS

Session III - Business Cases: Trust and Transparency in Decision Making



ANGELA IANNUZZIELLO

VICE PRESIDENT, CANADA NATIONAL TRANSIT MARKET SECTOR LEAD,
AECOM

Angela Iannuzziello is Vice President and Canada Transit Market Lead for AECOM. Angela has over 35 years of extensive and diverse experience in transit and transportation planning. Angela currently provides strategic direction on transit pursuits across the country, engages in business development and coordinates transit team engagement. Angela was President of ENTRIA Consultants for almost 20 years. Her work emphasizes developing effective transportation planning solutions that are supportive of healthy communities and environmental objectives and integrating transportation planning with land use planning and urban design to achieve sustainable development. She is a very active volunteer in the transportation community and community at large.

Her professional qualifications combined with her volunteer activities and her commitment to excellence makes her a recognized expert in strategic transportation and transit planning and project delivery.

Angela has served on many professional committees. She is currently member of the APTA (American Public Transportation Association) Board of Directors, Leadership APTA Steering Committee, Immediate Past Chair of the Business Members Board of Governors, was member of Executive Committee and Co-Chair of Governance Review Task Force and numerous other committees of APTA. Additionally, Angela is a member of Canadian Urban Transit Association (CUTA) Board of Directors and was a member of CUTA's Executive Committee. Angela also served on the TRB (Transportation Research Board) TOPS Committee in Washington, DC. Angela is currently on the Toronto Region Board of Trade, Board of Directors and Chair of the Infrastructure Committee. Angela is a founding Board member of the Women's Transportation Seminar (WTS) Toronto Area Chapter. Angela served on the Canadian Urban Institute; Urban Development Institute; and Transportation Research Board Committee on Bus Operations/BRT.

She received APTA's Outstanding Public Transportation Business Member Award in October 2015 and Canada's Transportation Person of the Year Award from the Transportation Association of Canada (TAC) in October 2014; CUTA's Distinguished Service Award in November 2011; and the ITE Toronto Section Project of the Year Award for her work in Richmond Hill-Langstaff Urban Growth Centre Transportation Study in December 2011.

An active member in the community at large for over 35 years, Angela served as President of the Board of Directors at Surrey Place Centre and Chair of the Board of Directors of REENA (organizations for persons with developmental and physical disabilities), and on

BIOGRAPHIES OF SPEAKERS, HOST AND MODERATORS

BIOGRAPHIES OF THE SPEAKERS

Session III - Business Cases: Trust and Transparency in Decision Making - CONTINUED



CAROL LAYTON
DEPUTY MINISTER, ONTARIO MINISTRY OF TRANSPORTATION

Carol Layton was appointed Deputy Minister of Transportation on September 1, 2010. She was formerly the Deputy Minister of the Ministry of Revenue. Prior to that, she was Deputy Minister of the former Ministry of Public Infrastructure Renewal. Carol's first appointment as Deputy Minister was with the Ministry of Citizenship in 2003. Along with this appointment, she was the Deputy Minister Responsible for Seniors and for Women's Issues. She has also held senior management positions in Cabinet Office, Management Board Secretariat, and the ministries of Health and Long-Term Care, Finance, and the Attorney General. She is a past president of The Institute of Public Administration of Canada (IPAC) (2006-2007). Carol holds an Honours Environmental Studies degree (Geography) from the University of Waterloo and attended the Queen's University Public Executives Program.

Carol Layton is the recipient of the 2011 Lieutenant Governor's Medal of Distinction in Public Administration. She is also the recipient of the University of Waterloo's Faculty of Environment 2015 Alumni Achievement Award.



DWIGHT DUNCAN
FORMER ONTARIO MINISTER OF FINANCE

Dwight Duncan serves as a Senior Strategic Advisor at McMillan LLP, one of Canada's largest and most respected full service law firms. At McMillan, Duncan advises clients in a variety of areas including energy, pensions, insurance, infrastructure, private equity, gaming, automotive, and agri-food.

In addition, Mr. Duncan is, or has been engaged, by a variety of businesses, pensions and not for profit organizations. These include OMERS (Ontario Municipal Employee Retirement System), Onex (Private Equity), ambev/Labatt, Aviva Canada, Travelers Canada, Desjardins, the Insurance Bureau of Canada, and Prestantia Management (gaming).

In 2013-14 Mr. Duncan co-chaired a special task force for the Ontario Chamber of Commerce on Alternative Service Delivery in the public and broader public sectors. This blue-chip panel released its final report in March 2014 with recommendations on how the public and broader public sectors can deliver better public services at lower cost. The report was well received by the Chamber and the Province of Ontario.

Continued next page

BIOGRAPHIES OF SPEAKERS, HOST AND MODERATORS

BIOGRAPHIES OF THE SPEAKERS

Session III - Business Cases: Trust and Transparency in Decision Making - CONTINUED

DWIGHT DUNCAN
FORMER ONTARIO MINISTER OF FINANCE
CONTINUED

Mr. Duncan currently serves on the Boards of the MS Society of Canada Scientific Research Foundation, The Churchill Society for the Advancement of Parliamentary Democracy, the Management Advisory Board of the Odette School of Business at the University of Windsor and the Advisory Board of KTG Consultants.

Mr. Duncan returned to the private sector in 2013, after close to 25 years of distinguished service in elective office. Prior to joining McMillan, Mr. Duncan had a distinguished career in public service that spanned close to 25 years.

During his time as a Member of the Ontario Legislature he served as Deputy Premier, Minister of Finance, Chair of the Management Board of Cabinet, Chair of Cabinet, Government House Leader, Minister of Energy, Minister of Revenue, Minister of Government Services and Opposition House Leader. He delivered six budgets and authored historic reforms to Ontario's tax, pension, insurance, and energy regimes.

Mr. Duncan played a leadership role in formulating the Province's response to the economic recession of 2008. As Finance Minister he lowered corporate and personal taxes, eliminated the capital tax and created the harmonized sales tax (HST).

During his tenure the Government of Ontario invested record sums in infrastructure, healthcare and education to lay the foundation for improved productivity and a more prosperous economy.

Duncan oversaw a number of large commercial transactions on behalf of the Province. These included lease extensions with Teranet, the re-organization of the Ontario Lottery and Gaming Corporation, Ontario's first P3 highway projects, and the financial restructuring of General Motors and Chrysler.

Mr. Duncan also had Ministerial responsibility for the Ontario Securities Commission, the Ontario Energy Board, Hydro One, and Ontario Power Generation. Prior to his election to the Legislature he served for 6 years as a municipal councillor in the City of Windsor and worked for eight years as the chief administrative officer at Brentwood, a highly regarded addiction treatment centre.

Mr. Duncan holds a Bachelor of Commerce (Hons) and MBA (University of Windsor) as well as a B.A. (Economics – McGill University). Mr. Duncan has received a number of awards and distinctions including a honorary doctorate from the University of Windsor (2013) and recognition as one of Toronto's 50 Most Influential People by Toronto Life Magazine (2012).

BIOGRAPHIES OF SPEAKERS, HOST AND MODERATORS

BIOGRAPHIES OF THE SPEAKERS

Session III - Business Cases: Trust and Transparency in Decision Making - CONTINUED



MODERATED BY
DANIEL SCHWANEN
VICE PRESIDENT, RESEARCH, C.D. HOWE INSTITUTE

Daniel Schwanen is an award-winning economist with a passion for international economic policy. He is spearheading Institute programs focused on the link between Canada's international trade and investment policy and Canadians' standards of living.

Having earned degrees in economics from the Université de Montréal and Queen's University, Daniel began his career in the financial services industry, becoming International Economist at the CIBC in 1986. He first joined the C.D. Howe Institute in 1990, producing widely-cited research on international trade, Canada's economic union, climate change policy, and the economics of cultural policy. His work in the 1990s earned him foreign visitorships in the United States, Japan and Australia.

After joining the Institute for Research on Public Policy in 2001, Daniel earned the Policy Research Initiative's Outstanding Research Contribution Award for his paper "A Room of Our Own: Cultural Policies and Trade Agreements," and produced, with co-editors Thomas Courchene and Donald Savoie, a major series of papers on North America after NAFTA. In 2007, he co-wrote the independent review of Australia's Progress to Achieve APEC Goals, presenting the report at APEC's Senior Officials meeting as part of APEC's peer review process.

Daniel joined the Centre for International Governance Innovation (CIGI) in Waterloo, Ontario in 2005, serving in a number of senior research and executive positions. Most recently, his work there focused on the G20 and international economic policy coordination.

Daniel returned to the C.D. Howe Institute in March, 2011 as Associate Vice President, Trade and International Policy. He was promoted to Assistant Vice President, Research in January 2013, and currently holds the position of Vice President, Research, as of June 2014.

BIOGRAPHIES OF SPEAKERS, HOST AND MODERATORS

BIOGRAPHIES OF THE SPEAKERS

Session IV - Thinking Ahead: Where Do We Go from Here and How Do We Do It?



BRUCE MCCUAIG
CHIEF EXECUTIVE OFFICER, METROLINX

Bruce McCuaig has been the President and Chief Executive Officer of Metrolinx since September 4, 2010.

Bruce began his career in public service in 1984, and has worked in areas involving land use planning and policy, municipal policy, and transportation planning, policy and operations over the intervening years. He served in various capacities at the Ontario Ministry of Municipal Affairs and Housing for 10 years, as well as serving 15 years at the Ontario Ministry of Transportation. His final role at the Ontario Ministry of Transportation was Deputy Minister, responsible for leading the 4,000 public servants dedicated to ensuring Ontario's transportation was efficient in safely moving people and goods across the Province.

As President and CEO of Metrolinx, Bruce is building a team that is committed to transforming transportation in the Greater Toronto and Hamilton Area, by building a customer service emphasis throughout the organization, delivering quality transportation services on time and on budget, and working collaboratively with our partners. Delivering on the promise of The Big Move, our award-winning regional transportation plan, is central to everything the organization does, and is demonstrated by our focus on growing GO Transit, delivering the Pearson Air Rail Link, deploying PRESTO, the regional smart card fare payment system, and building new transit services across the region.

Bruce graduated from Ryerson University in 1984 with a Bachelor of Applied Arts (Urban and Regional Planning) degree, and from Queen's University in 2000 with a Master of Public Administration degree.

BIOGRAPHIES OF SPEAKERS, HOST AND MODERATORS

BIOGRAPHIES OF THE SPEAKERS

Session IV - Thinking Ahead: Where Do We Go from Here and How Do We Do It? - CONTINUED



MICHAEL SCHATZ
EXECUTIVE VICE PRESIDENT AND MANAGING DIRECTOR,
HATCH MOTT MACDONALD

Mr. Schatz is Managing Director and Executive Vice President with Hatch Mott MacDonald. He has over 27 years of experience in the feasibility and implementation of major capital projects. His background in engineering, project management and management consulting gives him a solid understanding of project requirements as well as the business, stakeholder and technological concerns that are required for effective and successful project implementation. He has well-rounded project development experience, in both the public and private sectors, through all phases of a project from concept definition and planning, through to design, construction and hand-over for clients in the infrastructure, energy and mining sectors.

MODERATED BY
DANIEL SCHWANEN
VICE PRESIDENT, RESEARCH, C.D. HOWE INSTITUTE

Please see biography on Page 8.

Closing Remarks

BEN DACHIS
SENIOR POLICY ANALYST, C.D. HOWE INSTITUTE

CONFERENCE SUMMARY

Building the Future of Canada's Transportation Infrastructure

Government decisions in 2016 will determine how over tens – perhaps hundreds – of billions of dollars will be committed to infrastructure spending in the coming years. By 2025-26, the federal government proposes that federal infrastructure spending will reach about \$16 billion per year. Provincially, Ontario, for example, is planning to spend \$130 billion on infrastructure in the next 10 years. Of that amount, Ontario is planning to spend \$16 billion on public transit for the Greater Toronto and Hamilton Area and \$15 billion for road projects elsewhere (Ontario 2015). The province of Alberta plans to spend \$34 billion on infrastructure in the next five years. Of that, the province plans to directly spend nearly \$7 billion on road and bridge infrastructure (Alberta 2015).

How should policymakers decide how to allocate these staggering amounts of money? There is much talk about how governments should invest in infrastructure as an economic stimulus (Curry 2016). However, governments should ensure they are investing in the right projects with highest long-run returns, not necessarily the shovel-ready ones. The C.D. Howe Institute's policy conference "Building the Future of Canada's Transportation Infrastructure" looked at what process governments should undertake to determine their investment priorities.

The potential economic returns from infrastructure can be substantial. However, the rates of return across projects also differ dramatically. Governments are missing a large portion of the economic benefits of infrastructure when they do not estimate them fully. In particular, analyses should take into account economic externalities – which arise when an individual's use of infrastructure affects someone else – can be large. For example, a 2013 C.D. Howe Institute study (Dachis 2013) argued that governments should

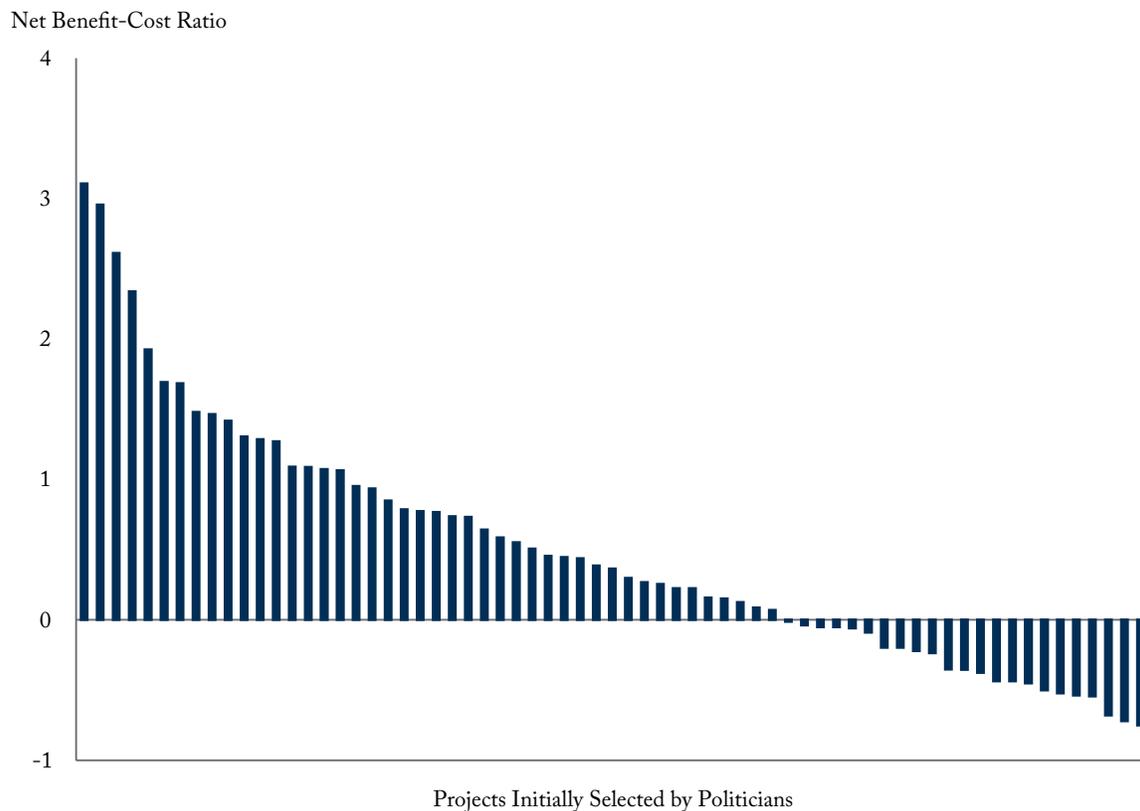
select transportation projects and prioritize them by taking into account which of them would be most effective at connecting the most people. But policymakers will only know which projects are most effective at enabling those connections if they conduct a thorough cost-benefit analysis.

Why Use Business Cases?

Business cases should not be treated as rubber-stamps that come after governments have already committed to building projects. Indeed, the economic benefits, or low costs, that policymakers initially attribute to a project often do not hold up under the scrutiny of preparing a business case.

A comprehensive analysis of Swedish infrastructure business cases for transportation projects (Eliasson and Lundberg 2012) showed that the initial list of projects under consideration had many projects in which the costs were higher than the benefits, or a benefits-to-costs ratio of less than one (Figure 1). Indeed, there were a large number of projects that – even disregarding the investment costs – harmed society as a whole and had a negative benefits-to-costs ratios (Figure 1).

What explains why projects with poor business cases went ahead in the Swedish case? Projects that politicians deemed "shovel-ready" and pushed ahead in an economic downturn were immune to being weeded out during a comparison of business cases. The existence of comparable business cases across projects revealed when decisions were made to pursue non-economic projects. Nonetheless, projects with the highest benefit-cost ratio were still the most likely to go ahead. The simple requirement that projects undergo a business case led the government to reduce the investment costs while not reducing benefits (Eliasson and Lundberg 2012).

Figure 1: Benefit-Cost Ratio of Swedish Infrastructure Proposals, 2010


Source: Adapted from Eliasson and Lundberg (2012).

As Canada embarks on a major infrastructure spending program, it is critical to get the business case process and design right. But policymakers must use them to ensure that the best projects go ahead – not to justify decisions they have already made.

SUMMARY OF CONFERENCE DISCUSSION AND PRESENTATIONS

Business cases should be a key part of the decision-making process for infrastructure investment. A strong business case builds public confidence that governments are dedicating tax dollars to the right

projects at the right time and in the right sequence. Metrolinx, a provincial crown agency responsible for many public transportation infrastructure investments in the Greater Toronto and Hamilton Area, undertakes a business case on some major transit infrastructure. The question remains as to whether these business cases are properly formulated and how policymakers should be using them in selecting projects.

Session I: What is the Region of the Future?

This session explored the strategic case for transportation investment. Panelists argued that the key to a successful strategic case is to define specific

problems and objectives. However, the discussion made clear that it was important for policymakers to articulate only a broad vision, and leave experts to work on policy implementation without elected officials specifying methods for meeting the objectives.

Creating a broad vision that the public trusts requires a specific process. One panelist suggested a process of:

- (1) *Understand the needs, not just wants, of voters:*
For example, this requires an understanding of the aspirations of those living in an urban area. Transportation plans can follow from that initial broad vision.
- (2) *Work with experts on plans – and listen to them:*
Plans are living documents, and plans from different parts of a government's operations interact with one another. For example, transit plans will result in necessary changes in height restrictions in zoning plans. If a city needs to have more intensified growth then that needs to be part of a modelling exercise in a transportation plan. There are important pools of expertise in land use planning and transportation that should work together.
- (3) *Constantly engage citizens:* Governments can bring the public into the transportation planning process, such as through city-wide initiatives on transit planning or pre-budget consultations.¹ Policymakers have learned that when citizens have buy-in to projects, those projects tend to get built.

The consensus in the discussion was that elected officials, as representatives of the people, still need to be the decision-makers on large-scale infrastructure investments. The final decisions must come from organizations that are accountable to citizens. Elected officials need the best possible data to make decisions. They can apply their

own lenses regarding non-economic as well as economic priorities to the information given to them. However, participants felt that the political process will be doomed from the start if there are competing data sources that emerge in the final business cases.

There also needs to be greater clarity as to which level of government does what as part of an infrastructure investment. A transportation project can involve numerous levels of governments and agencies. When provincial and federal governments give grants to lower-level governments, they should remove any conditions regarding how the money is deployed. Otherwise, higher-order governments will tend towards supporting large, highly visible capital projects – which typically create long-term operating expenses for lower-tier governments – without supporting critically important maintenance or operation needs.

Clarity of responsibility is also a relevant issue in the governance of regional transit. There are multiple agencies and commissions operating in our urban areas. The discussion landed on the view that the future of fare integration will be the first true test of regional transportation agency governance.

Likewise, the public needs to be better educated about transit. For example, governments need to do more to educate the public about the services offered by various modes of travel. Transit needs to be viewed as a mobility service, independent of whether people travel by bus, train or other means.

Session II: Transportation in Context: What are the Broader Economic Impacts of Transportation Infrastructure?

The second session of the day tackled the question of the economic benefits that should make up a cost-benefit analysis. Having the correct

1 For municipality-led initiatives, see <http://relieffline.ca/> and <http://mississaugamoves2015.ca/>.

information in a business case will help make sure governments are building the right projects in the right places. The traditional scope of analysis has significantly underestimated the cost of congestion by undervaluing the economic benefits of transportation improvements.

The additional benefits of transportation are known as “urban agglomeration.” These range from accessing jobs that better match peoples’ skills, and sharing knowledge face-to-face, to creating demand for more business, entertainment and cultural opportunities which, in turn, benefit other people. When congestion and a lack of infrastructure make urban interactions too costly to pursue, these benefits are forgone, adding significantly to the net costs of congestion (see Dachis 2013 and Dachis 2015 for details of these economic costs in Toronto and Metro Vancouver).

Urban agglomeration facilitated by transit comes in two forms. First, public transport enables people to travel further. Second, it also allows people to live in denser communities. But zoning restrictions that forbid denser new development curtail these agglomeration benefits.

Urban agglomeration presents a new way of thinking about how innovation affects transportation. Cities used to be organized around a single industry – such as vehicle manufacturing or computer and information technology, in the cases of Detroit and Silicon Valley, respectively. This was the concept of economic clusters (see Porter 2000). Modern economic growth theory sees technology as more likely to be deployed in unpredictable parts of the economy (see Jacobs 1969 and Howitt 2015). Indeed, technology applications are blurring across industries. The mobility of ideas has changed the economics of cities. The economically strong cities

of the future will be those that best enable the transmission of knowledge.

What does this mean for transportation? The transmission of ideas happens best when people are in close proximity. Workers from various sectors are locating in the same places in order to benefit from the ideas from other sectors of the economy. That requires a transportation system that is able to bring people from a wide area to single points, such as central business districts. Transportation can enable connections and boost economic growth.

Other governments around the world now include agglomeration benefits in transportation business cases. Including these wider economic benefits can increase the benefit side of the ledger of a business case by nearly 50 percent, as was the case for Crossrail, a major transit investment in London, England (Mayor of London 2010).²

But Canadian governments are not consistently taking these potential benefits of transportation into account when assessing investment projects. A pre-feasibility study of a high speed rail line from Toronto to Southwestern Ontario simply assumed that wider economic benefits were double the other benefits (FCP 2014). That assumption is what moved the ledger of the Southwestern Ontario high speed rail project from being poor, to at best, medium value for money, to high value for money. Including wider economic benefits is a new field, but the discussion made clear that transportation policy needs to make efforts to get these numbers right.

The future of transportation also requires that policymakers account for the innovation that is changing not just where people are going, but how they are getting there. New technologies are resulting in people taking new modes of transportation. Autonomous vehicles have arrived

2 In the Crossrail business case, including wider economic benefits increased the benefits there from 15 billion British pounds (\$31 billion Canadian at January 2016 exchange rates) to 23 British pounds (\$48 billion Canadian).

and car-sharing services are booming. However, people often take these services to more traditional transit hubs. Policymakers also need to account for the role of transportation and housing costs together – not separately as they often do in business cases – in how people make decisions.

Session III: Business Cases: Trust and Transparency in Decision-making

How can business cases introduce trust and transparency into the decision-making process for transportation infrastructure? This session discussed how Canadian practitioners and policymakers use cost-benefit analyses to make choices for infrastructure projects. A critical component of that analysis is first laying out the strategic case and the problem to be addressed for each project under consideration. It is crucial that policymakers lay out only a broad vision, then decide later what to build to fit that need. What ends up being built must match up with the project plan used in the business case. Panelists argued that too often, the business case presented is for a different version of a project than what ends up being built. Business cases should be an iterative process that governments update to reflect changing conditions, and also serve as a reference point to ensure that government investments follow the agreed plan.

The discussion pointed to the new Ontario government-wide standard that Metrolinx is setting by creating a business case for major investment projects. It is critical now that other parts of government take on a similar task. For example, Infrastructure Ontario could take on

similar analyses for the projects it supports. Likewise, the federal Treasury Board could do so in its government-wide assessment of the spending priorities of government.³ Another option is to have a provincial capital financing authority select projects from among municipal loan applications based on the kinds of projects that are the best use of public funds (see Bazel and Mintz 2015). It is also important to do these business case analyses in areas outside of major capital projects, such as for road safety and maintenance.

Session IV: Thinking Ahead – Where Do We Go from Here and How Do We Do It?

This session closed the conference by consolidating the lessons of the day and focusing the discussion on practical solutions for Canada's urban transit systems.

The discussion reiterated the need for a consistent methodology in estimating the economic costs and benefits of infrastructure. This is true not just at the provincial level, but also at all levels of government. Institutions need to become more regional and there needs to be a convergence in methodology by all governments as the boundaries blur between municipalities and regional bodies in providing and planning transit. The process for business case development also should include oversight of those making the business case. That can include a mandatory peer review of business cases to challenge assumptions. The oversight can come from, for example, within government between ministries or from outside consultants engaged expressly for a peer review. Such

3 Neither organization has a compressive business case methodology available to the public. As Mackie and Worsley (2013) argue: “To varying degrees, the appraisal guidelines are a transport sector application of broader policy guidance from the ministry of finance. This is particularly true in areas such as the choice of discount rate, numeraire and appraisal metrics where there is no good reason for the transport sector to be different from any other sector.”

reviews allow for competition between ideas and assumptions and should lead to improvements in the final business cases.

Business cases are closely linked to governance, and formalizing a policy and process can help with building the regional capacity of transportation planners to create open government decision-making based on transparent objectives.

The business case is one part of building broader social licence, or social acceptance, of infrastructure projects. Panelists mentioned a number of models of additional community engagements. One example was the creation of “corridor” coalitions, which are made up of business and local stakeholders in an area affected by potential projects. Another example was the creation of multi-stakeholder groups: a regular meeting to secure mutual accommodation between the interests of a project developer and stakeholders throughout a project’s life cycle (see Hale and Belanger (2015) for a similar discussion related to energy infrastructure).

Panelists also agreed that it is important that the cost-benefit analysis not be part of a rubber-stamping process. Policymakers must have the stomach to reject bad projects. For example, the government of Singapore rejects 35 percent of business cases, according to one panelist. One panelist discussed the four different stages the United Kingdom has at which it can either approve or reject projects based on value for money.

KEY POLICY RECOMMENDATIONS FROM THE CONFERENCE

A clear business case for investment is critical for establishing public confidence that governments

are selecting the right projects. As a recent transit panel argued “Decision-makers should not approve projects in the absence of full and published business cases.” (Transit Investment Strategy Advisory Panel 2013).⁴ The existence of a business case is a necessary, although not sufficient, condition for good decision-making on transportation infrastructure. A number of policy recommendations emerged from the conference discussion:

1. There needs to be a publicly available business case for all major investment projects. Policymakers must engage with the public using more than just business cases, however. They must constantly engage citizens in investment plans.
2. Elected officials still need to be the decision-makers on large-scale infrastructure investments.
3. There needs to be one, clear business case presented to the public for a major infrastructure investment. That business case needs to represent the final project selected and not present competing sets of information.
4. These business cases should explicitly assess all potential major economic effects, such as wider economic benefits, when assessing transportation infrastructure. Although it is critical to harmonize business case methodology across government, different kinds of economic benefits may be more difficult to estimate than others. Other parts of government should similarly estimate wider economic benefits for other types of infrastructure and major spending.
5. To implement these policy recommendations, consistent business cases need to be in place across government for all major investments.

4 Recommendation 18 of the report stated: “That all projects approved by Metrolinx and elected officials must have up-to-date, publicly-available, business case analyses that validate the investment, taking into account life-cycle capital, operating, maintenance, and financing costs.”

This should be done at a cross-governmental office, such as the federal Treasury Board or Infrastructure Ontario. Lower levels of government should also have a similar methodology.

CONCLUSION

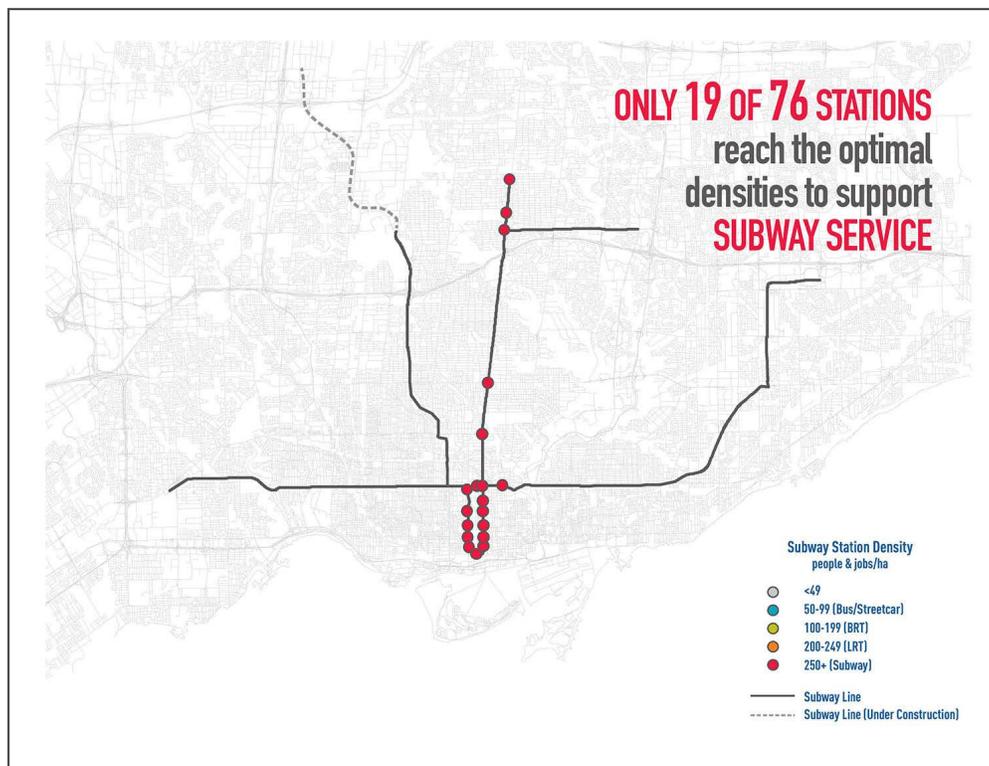
Governments across Canada – federal, provincial and municipal – are about to embark on a major transportation spending spree. This increase in spending makes it more crucial than ever that they pick the right projects to invest in. Governments should employ business case analyses and put the right information before the public in business plans.

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PRESENTATIONS

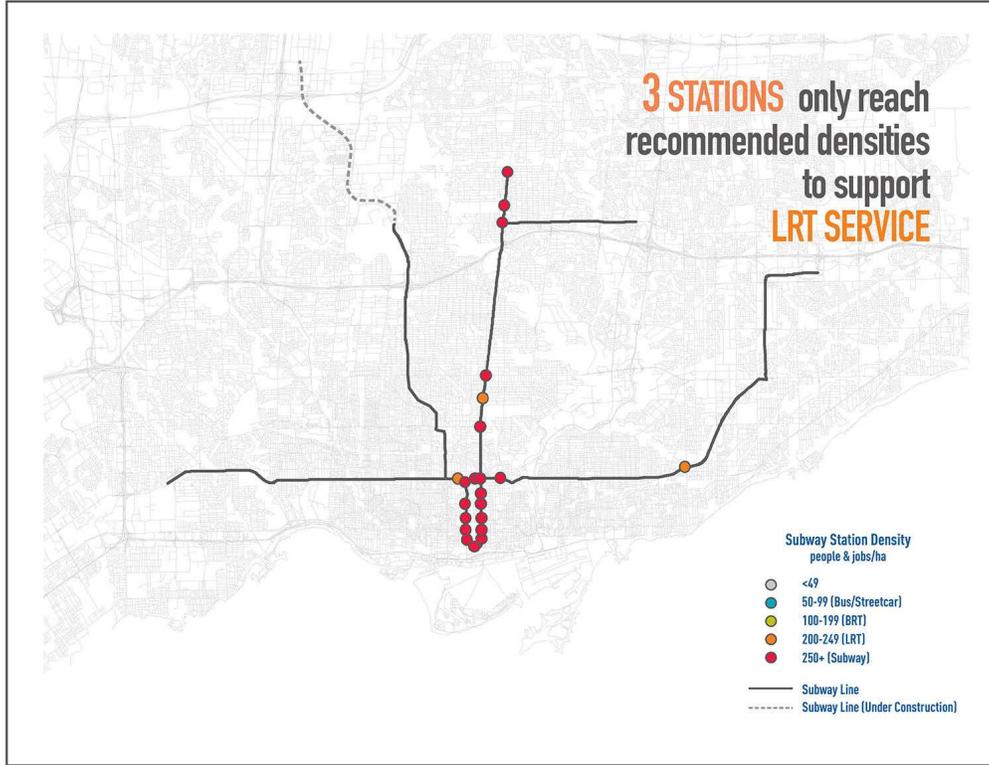
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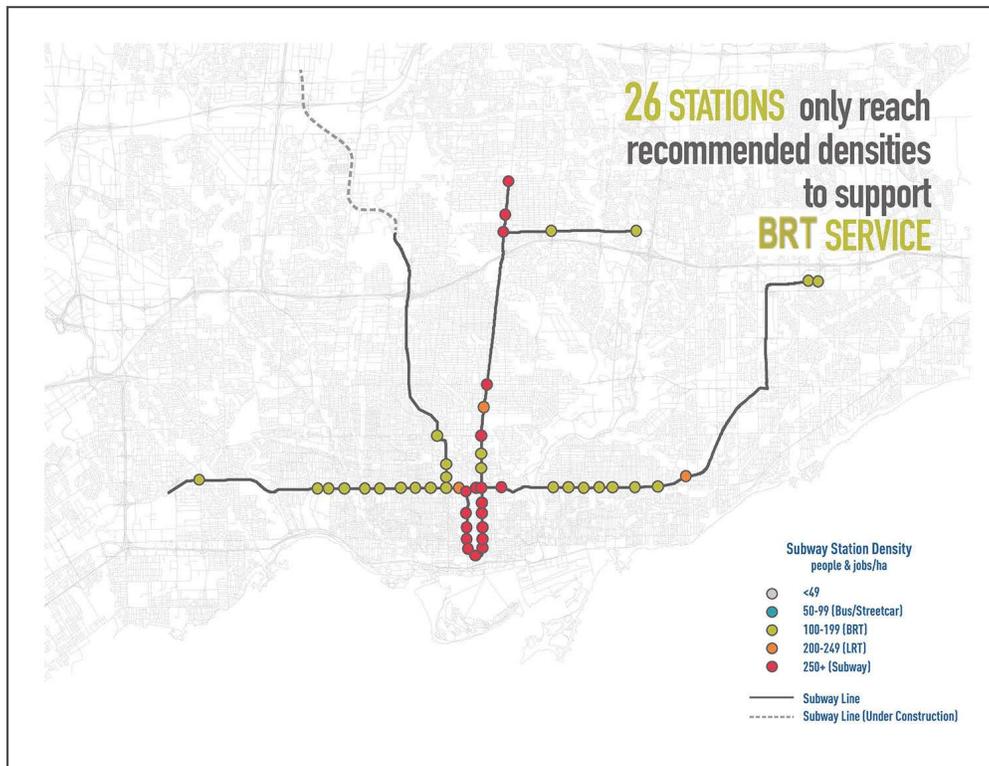
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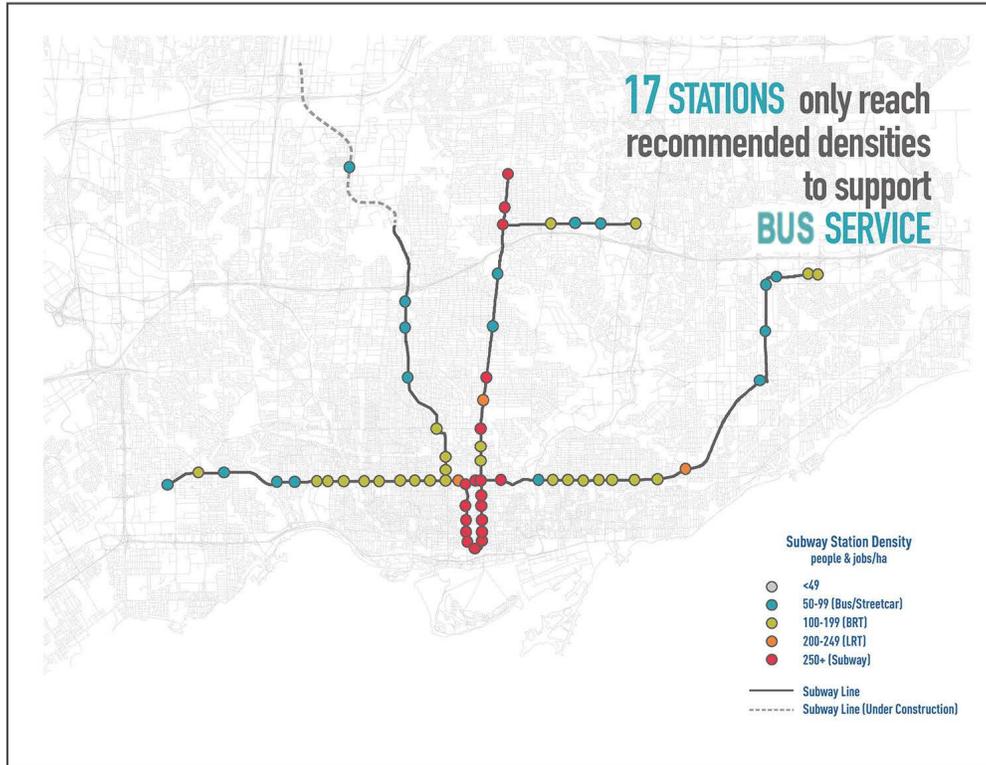


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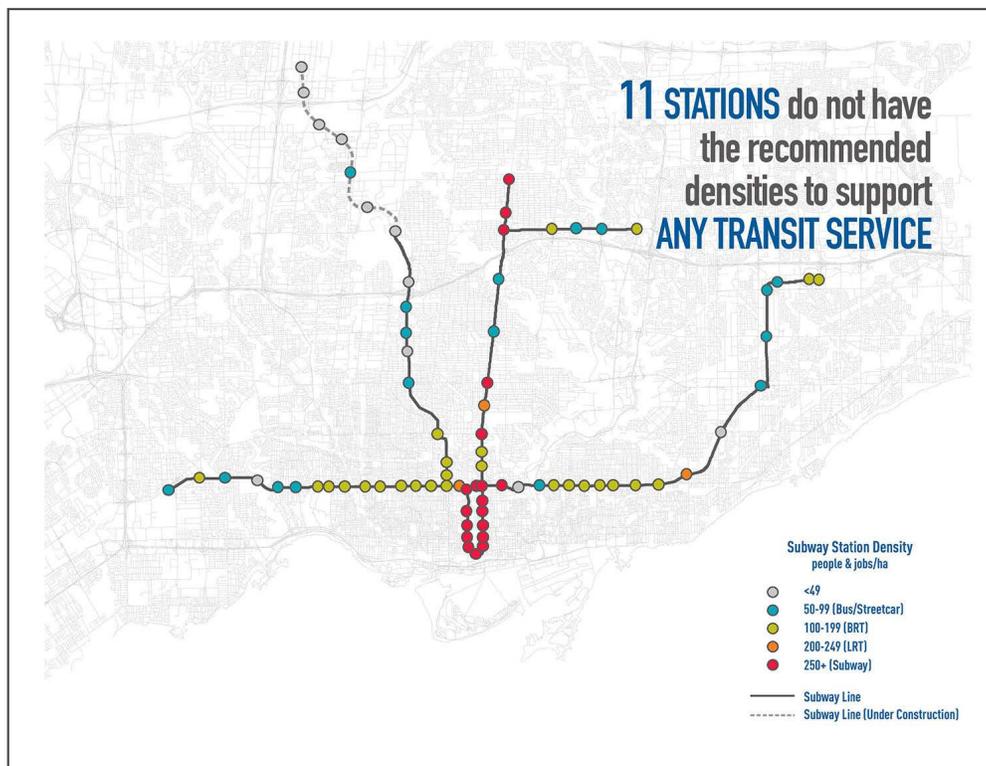
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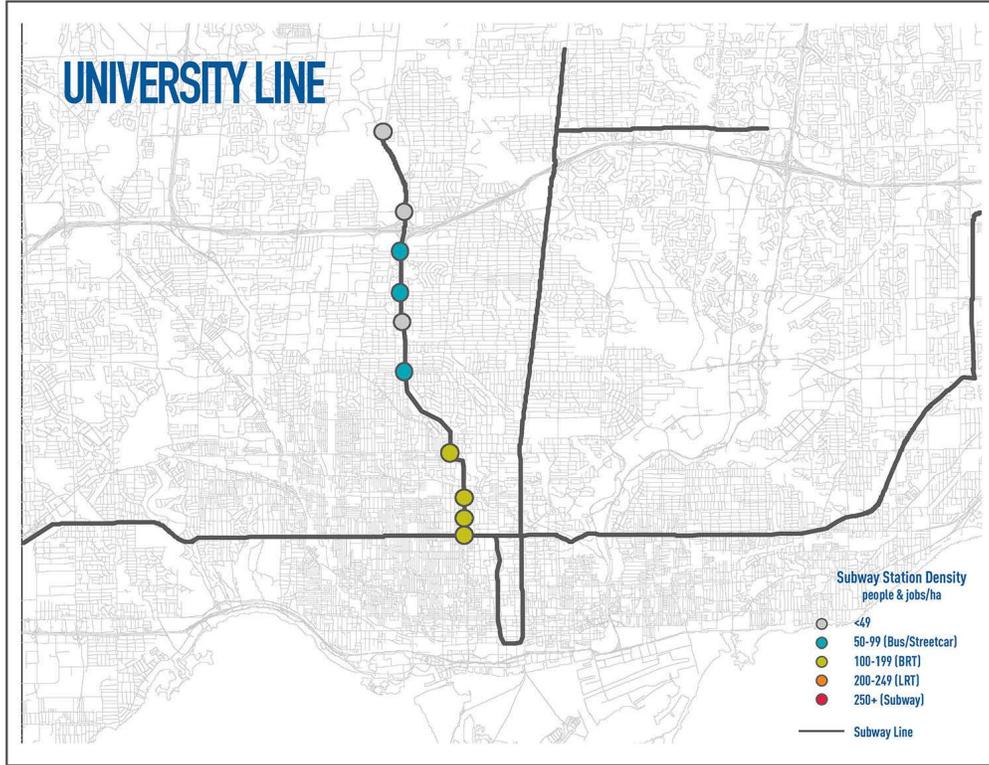


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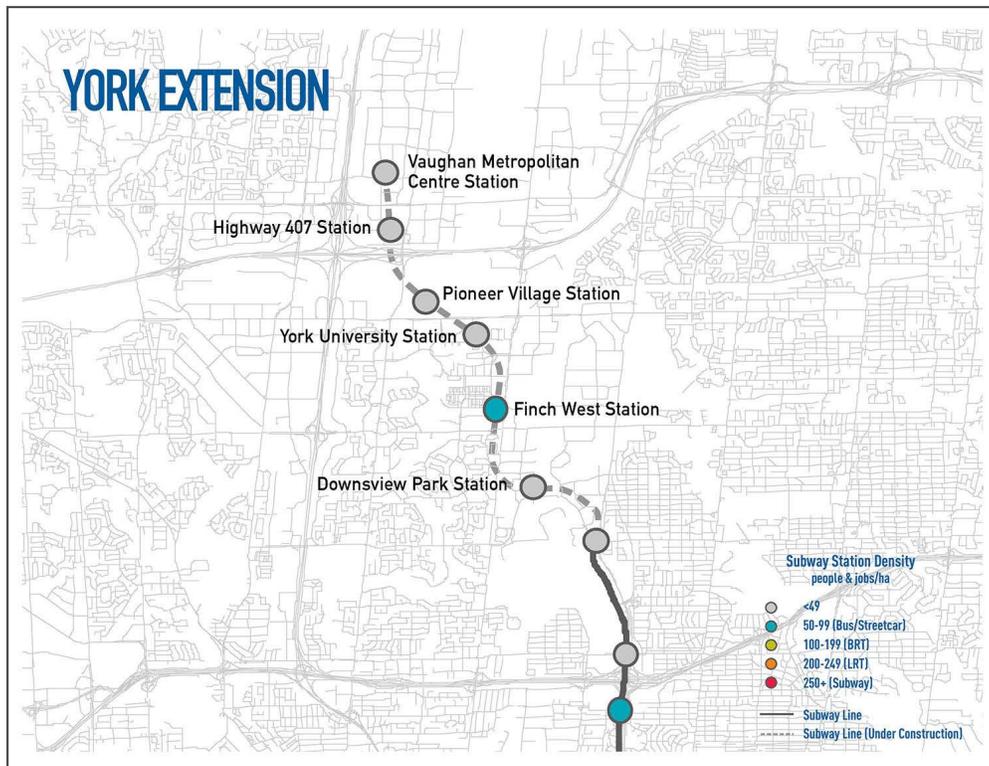
PRESENTATIONS

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6



7

PRESENTATIONS

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(Continued)

ARE WE BUILDING THE RIGHT TRANSIT IN THE RIGHT PLACES

<p>Waterfront West LRT - not approved</p>  <p>Length: 11km Cost: \$540 million</p>	<p>York Subway Extension - under construction</p>  <p>Length: 8.6km Cost: \$2.6 billion</p>
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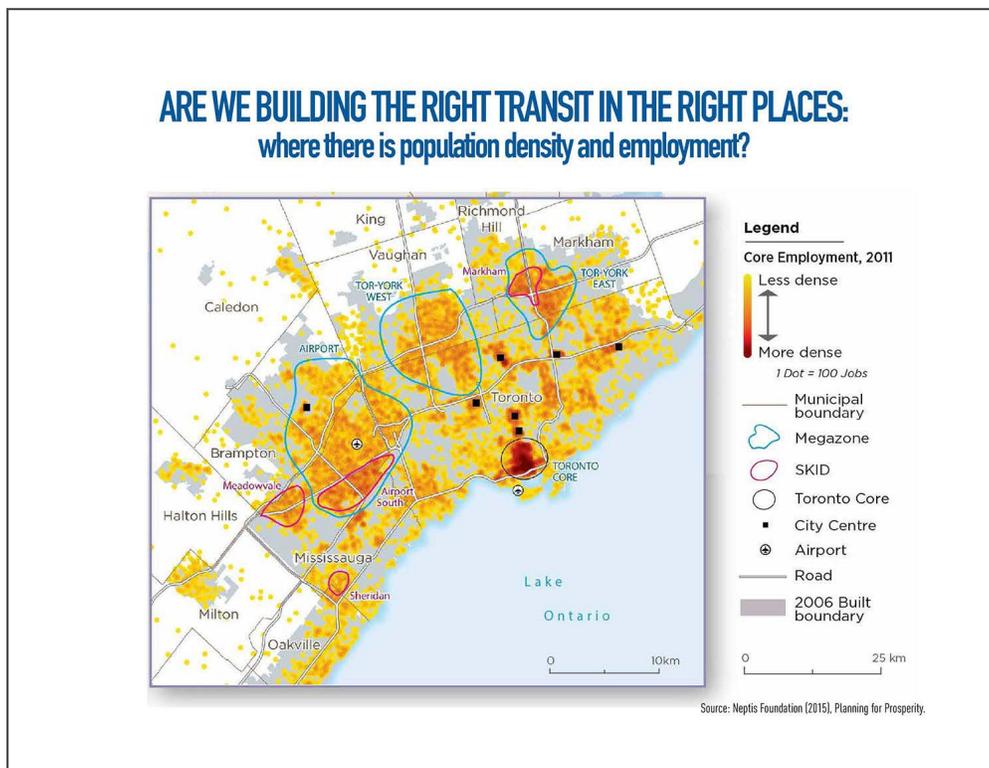
PRESENTATIONS

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(Continued)

	Metrolinx recommended density (residents and jobs per hectare)	Total number of stations	Number of station areas currently meeting target density	Percentage of station areas currently meeting target density
Existing station areas				
Subway	250+	68	21	31%
Light Rail Transit	200-400	6 (SRT)	0	0%
Bus Rapid Transit	100-250	16	1	6%
Regional Rail ¹⁸	50-200	63	14	22%
Station areas for planned transit lines¹⁹				
Subway	250+	6	0	0%
Light Rail Transit	200-400	100	5	5%
Bus Rapid Transit	50-200	27	1	4%
Regional Express Rail ²⁰	150-200	63	2	3%

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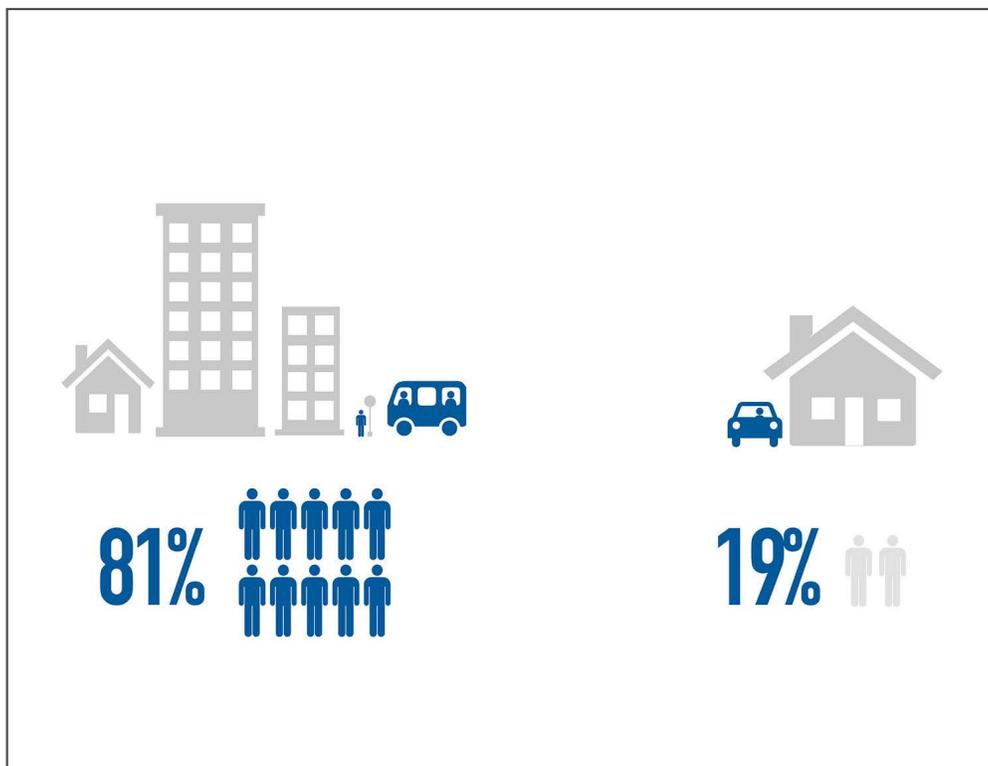
PRESENTATIONS

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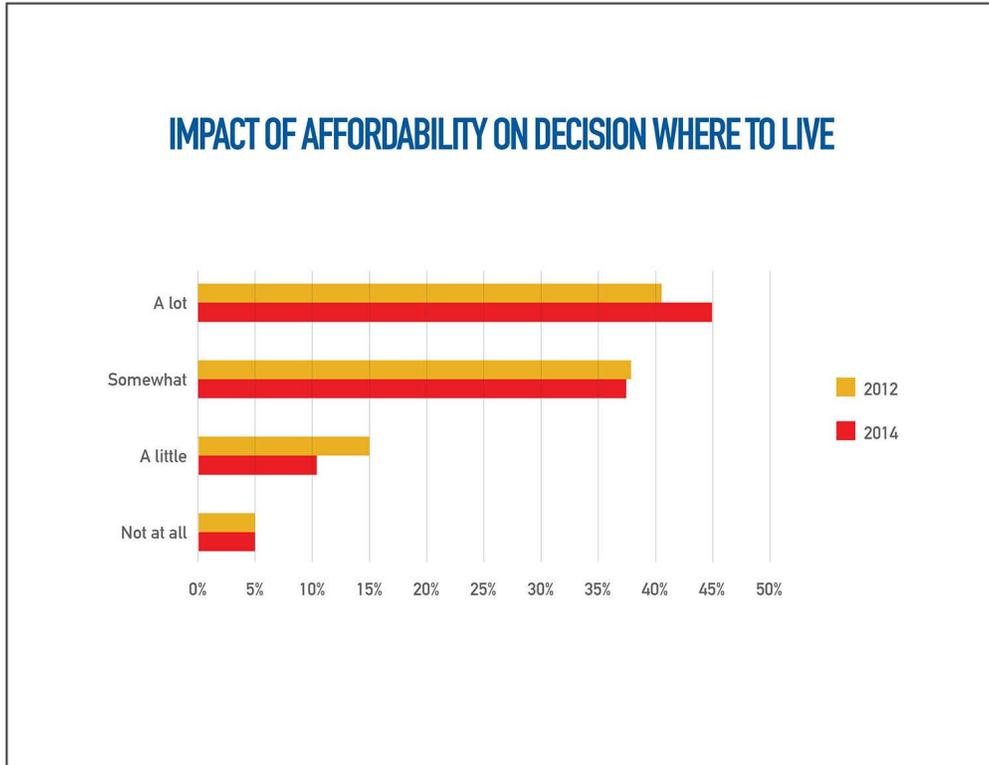


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PRESENTATIONS

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(Continued)



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PRESENTATIONS

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(Continued)

PRIYA'S CHECKLIST:

-  \$ 400,000 - \$ 550,000
-  3 Bedrooms and 2 Bathrooms, Detached House
-  Quiet Neighbourhood with Safe Streets
-  Finished Basement
-  Neighbourhood Amenities

16

HOUSING OPTIONS in the GREATER TORONTO AREA



The map displays the Greater Toronto Area with several icons indicating housing options: a briefcase icon in the west, a tower icon in the center, and another briefcase icon in the east.

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PRESENTATIONS

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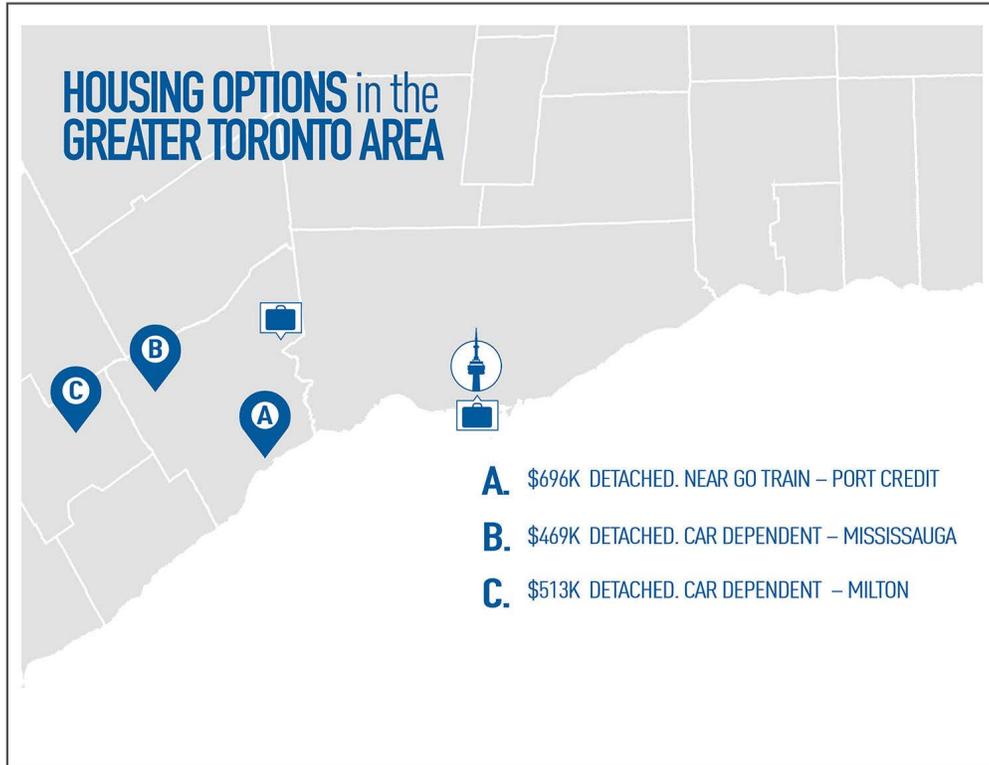


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PRESENTATIONS

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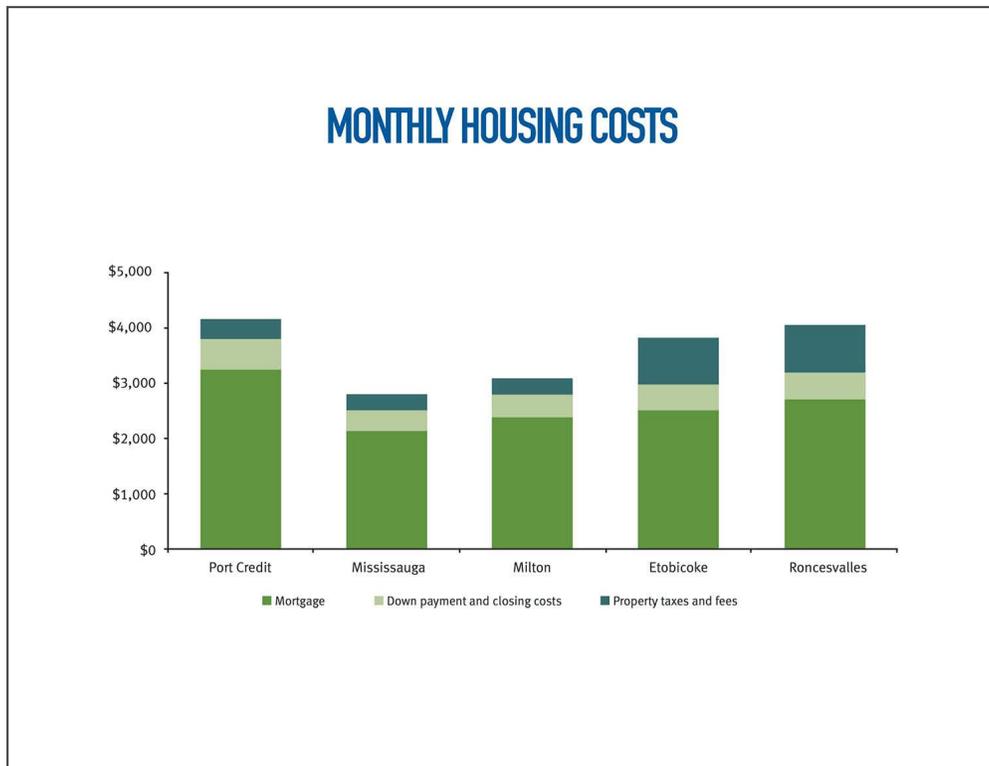
PRESENTATIONS

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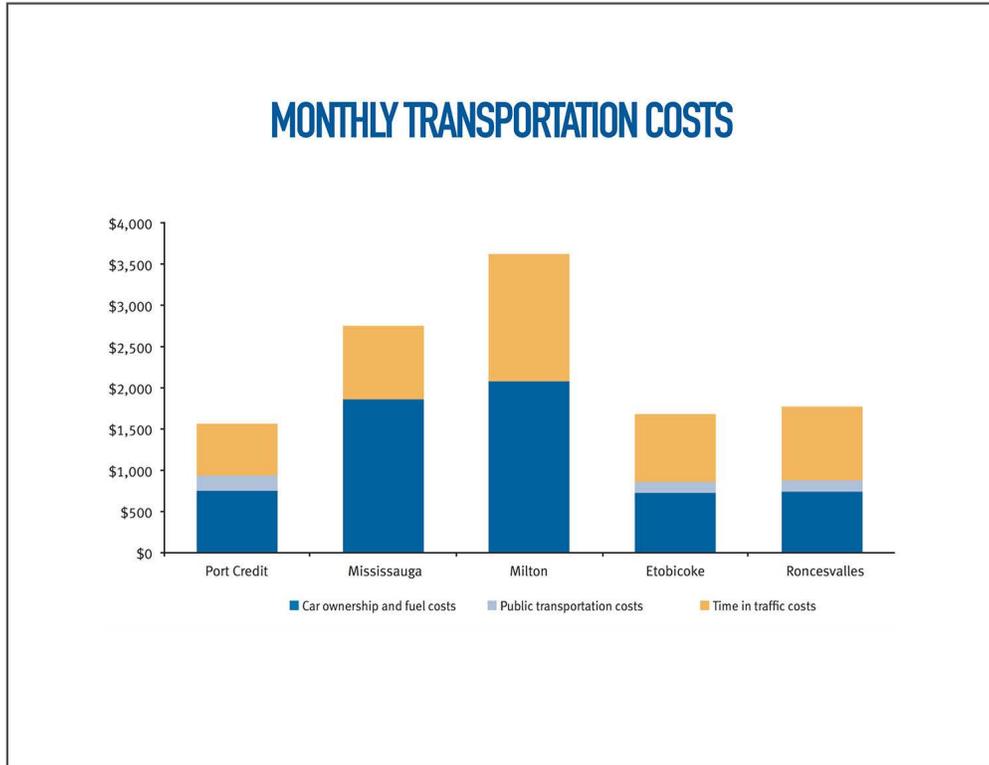


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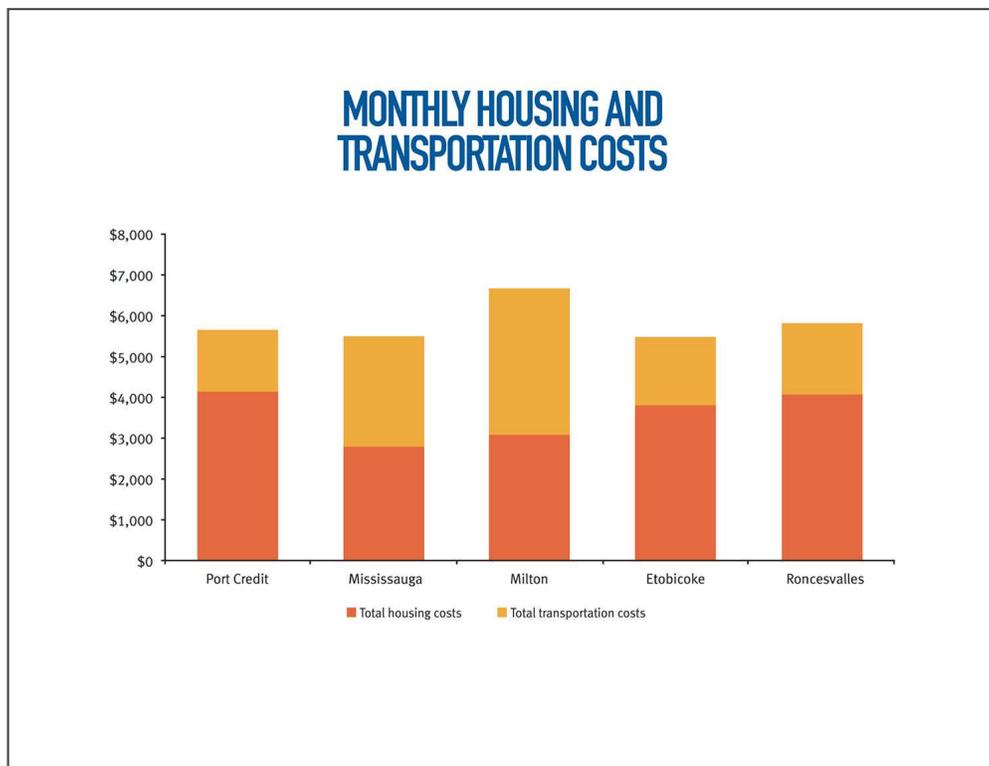
PRESENTATIONS

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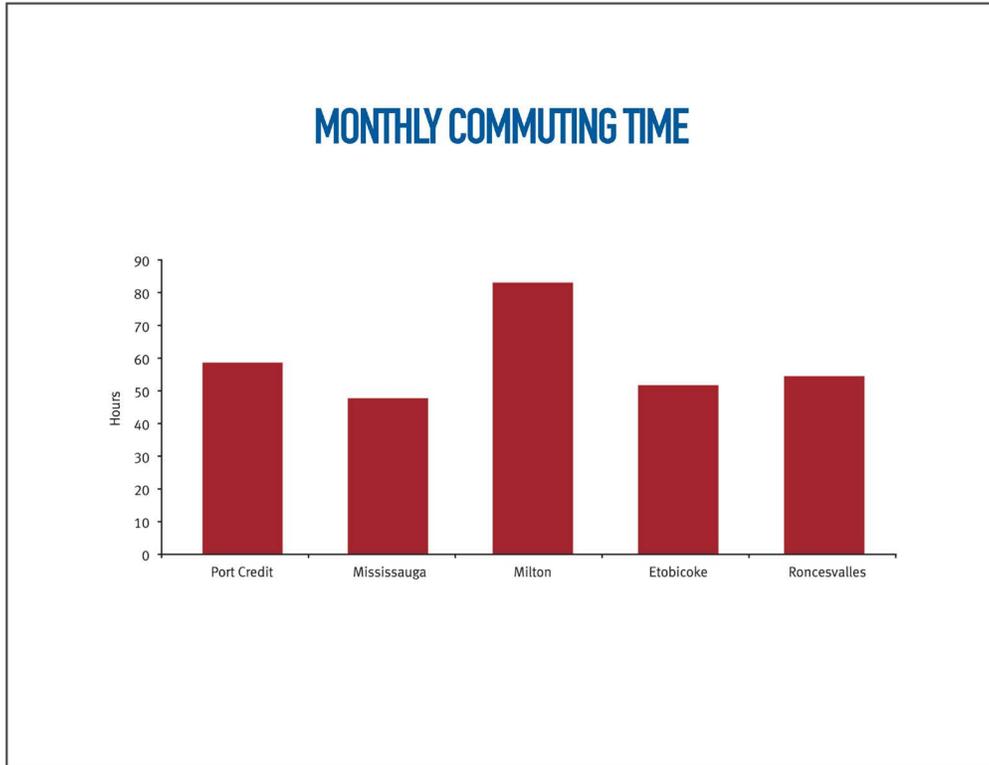


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PRESENTATIONS

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(Continued)



26

NEIGHBOURHOOD QUALITY

Location	Walkability and Livability Rating	Pedestrian Friendliness	Access to Amenities	Access to Frequent Transit	Walk Score
Roncesvalles	92	Excellent	Excellent	Excellent	98
Port Credit	85	Excellent	Excellent	Good	93
Etobicoke	63	Moderate	Moderate	Very Good	72
Mississauga	34	Poor	Very Poor	Poor	45
Milton	28	Moderate	Very Poor	Very Poor	23

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PRESENTATIONS

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(Continued)



MAINSTREET MARKHAM



SPRAWL IN MARKHAM

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