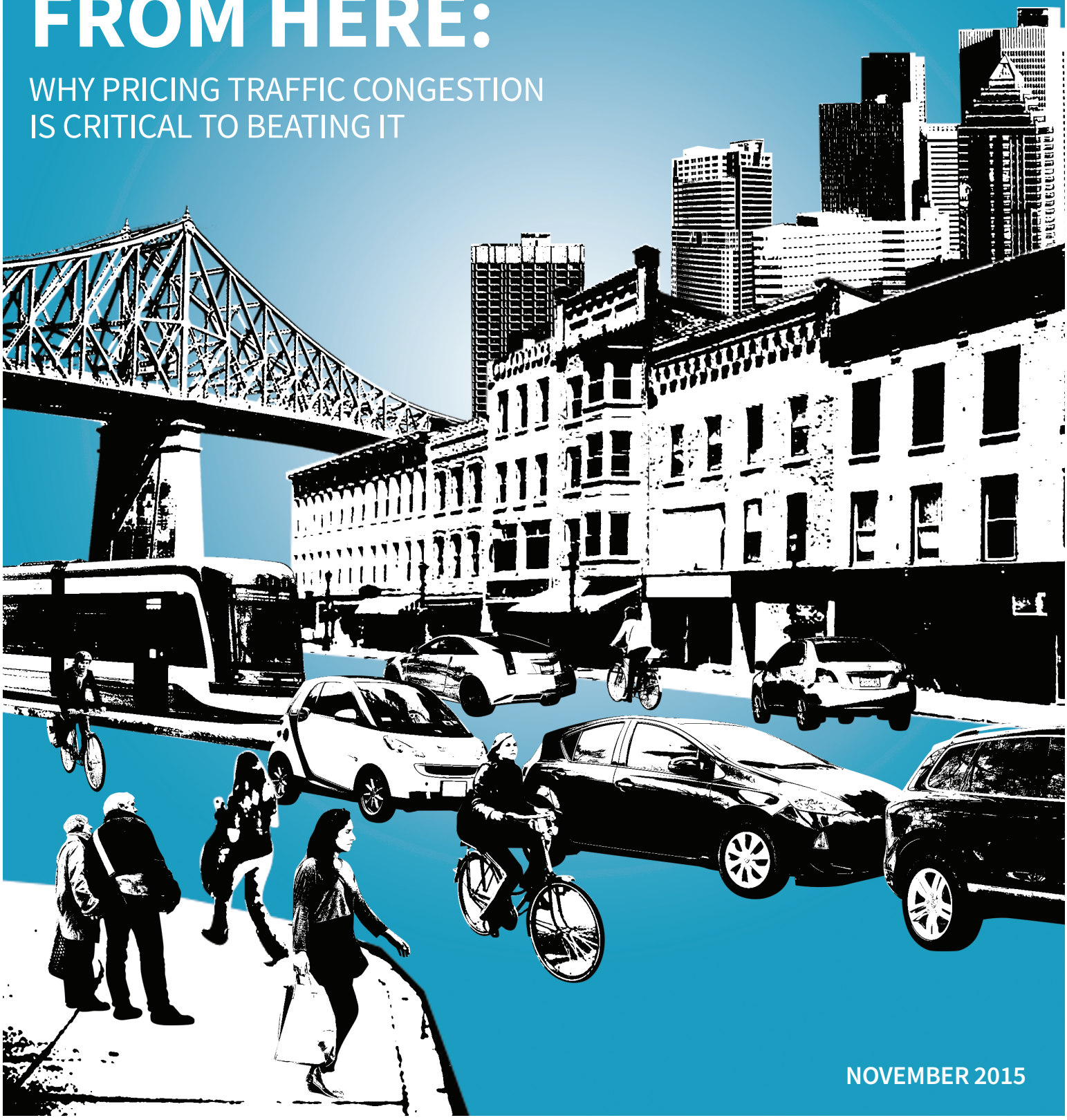
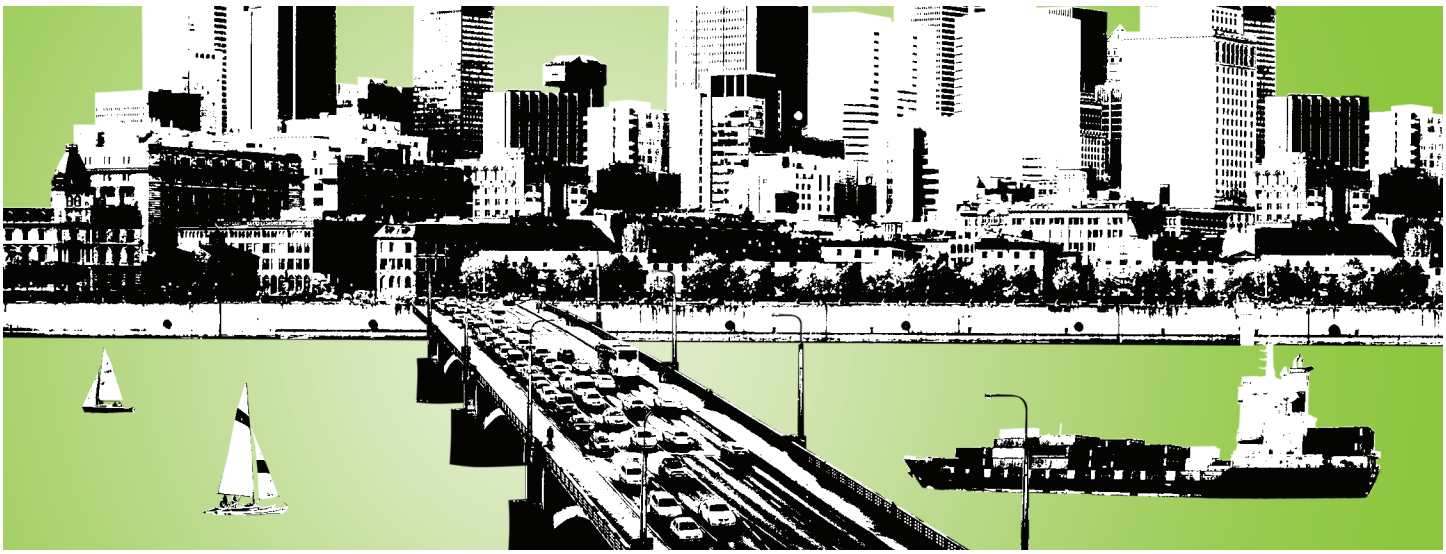
CANADA'S **ECOFISCAL** COMMISSION
Practical solutions for growing prosperity

WE CAN'T GET THERE FROM HERE:

WHY PRICING TRAFFIC CONGESTION IS CRITICAL TO BEATING IT



NOVEMBER 2015



CANADA'S ECOFISCAL COMMISSION

WHO WE ARE

A group of independent, policy-minded Canadian economists working together to align Canada's economic and environmental aspirations. We believe this is both possible and critical for our country's continuing prosperity. Our Advisory Board comprises prominent Canadian leaders from across the political spectrum.

We represent different regions, philosophies, and perspectives from across the country. But on this we agree: ecofiscal solutions are essential to Canada's future.

OUR VISION

A thriving economy underpinned by clean air, land, and water for the benefit of all Canadians, now and in the future.

OUR MISSION

To identify and promote practical fiscal solutions for Canada that spark the innovation required for increased economic and environmental prosperity.

For more information about the Commission, visit **Ecofiscal.ca**

A REPORT AUTHORED BY CANADA'S ECOFISCAL COMMISSION

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This report is a consensus document representing the views of the Ecofiscal Commissioners. It does not necessarily reflect the views of the organizations with which they are affiliated.

ACKNOWLEDGMENTS

Canada's Ecofiscal Commission acknowledges the advice and insights provided by our Advisory Board:

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We also acknowledge the support and contributions of the Commission's staff: Jonathan Arnold, Antonietta Ballerini, Adam Baylin-Stern, Dale Beugin, Annette Dubreuil, Jessie Sitnick, Vincent Thivierge, and Jennifer Wesanko. We would also like to thank Cherise Burda, CPCS Transcom (Vijay Gill and Robert Graham), Benjamin Dachis, Robin Lindsey, and Michael Roschlau for their contributions. Finally, we extend our gratitude to McGill University and the University of Ottawa for their continued support of the Commission.

Canada's Ecofiscal Commission recognizes the generous contributions of the following funders and supporters:

Peter Gilgan Foundation
IVEY foundation
KTG PUBLIC AFFAIRS
Max Bell Foundation
The J.W. McConnell Family Foundation / La fondation de la famille J.W. McConnell
METCALF FOUNDATION
TD
Fondation familiale Trottier Family Foundation
SUNCOR ENERGY

EXECUTIVE SUMMARY

Traffic congestion is a growing problem in many of our cities, imposing significant costs on Canadians

Congestion on our roads and freeways leads to wasted time for commuters and goods movement. Given the importance of the movement of goods and people through our cities, this lost time translates into a less efficient economy. The Toronto Board of Trade (2013), for example, estimates that the direct annual costs of congestion for the Greater Toronto and Hamilton Area could rise to $15 billion by 2031 without further action. In some Canadian cities, it takes more than an hour to get to and from work every day for half or more of the residents. Congestion also affects choices about where to live, undercutting the ability of cities to attract businesses, jobs, and workers. And congestion increases air pollution from vehicles, with corresponding health implications for Canadians. This air pollution is related to higher risks of asthma, high blood pressure, cardiovascular disease, diabetes, aggravation, and stress.

As cities continue to grow, with higher levels of urbanization and car ownership, traffic congestion and its associated costs are expected to worsen. The higher these costs climb, the greater the benefits from reducing congestion.

Congestion pricing is an essential—but missing—piece of smart transportation policy

Congestion pricing is an ecofiscal policy that prices road use or parking with the aim of reducing costly traffic congestion. A growing body of evidence and policy experience suggests that congestion pricing works, particularly as part of a broader policy package. When designed well, it leads to reduced traffic congestion and creates net economic benefits both for the economy as a whole and for individual drivers.

The case studies examined in this report highlight this point: pricing policies of different kinds have reduced congestion. In Ontario, traffic on the tolled Highway 407 consistently moves at free-flow speeds, while peak travel times on parallel unpriced routes are 50% to 200% longer. Under Stockholm's congestion pricing policy, vehicles entering the city core dropped by 20% to 30%. Minnesota's high-occupancy toll (HOT) lanes increased traffic speeds by 6% in the general-purpose lanes while maintaining free-flow speeds in the toll lanes. In Oregon's pilot project, drivers subjected to higher per-mile charges during peak times responded by reducing driving at those times by 22%, relative to those paying a flat rate. And San Francisco's parking-pricing program led to a 50% decline in the number of drivers circling for a parking spot—a major contributor to downtown traffic congestion.

Despite the evidence of its potential benefits, Canada has very limited experience with congestion pricing. The traditional approach to dealing with traffic congestion has been to expand public transit and build more roads. These policies are key components of the transportation puzzle: they increase the overall capacity of the transportation system and can reduce congestion in the short term. In the absence of congestion pricing, more drivers will ultimately fill this increased road capacity, and congestion may not be reduced in the long term. Moreover, the building of new road infrastructure to meet growing demand is constrained by land-use policy and increasingly stretched government budgets.

Congestion pricing is therefore the crucial, missing piece of a broader, coordinated package of policies to create greater mobility for a growing urban population. More public transit, roads, and cycling infrastructure provide drivers with alternatives, making it easier for them to respond to the congestion price by changing their behaviour. They are essential complements to congestion pricing. But without addressing the fundamental issue of misaligned incentives around free access to roads, traffic congestion in Canadian cities will only get worse.

The design details of congestion pricing policy matter

Congestion pricing is not a one-size-fits-all policy solution. Different cities face different types of congestion problems, and tailoring policies to local circumstances is critical for success. Policy design includes a range of choices. Should pricing be narrowly targeted or broadly applied? That is, should it price access to some roads, to all roads, to parts of roads, or even to parking? How should the price vary? Should it be higher at times of peak traffic, or even vary dynamically in response to real-time traffic levels? How should revenue from the policy be used? Smart policy design can reduce congestion, improving efficient transportation and travel outcomes for all travellers. It can also ensure that low-income travellers are not disproportionately affected. But the specific details of effective, cost-effective, fair, and practical policy solution will vary from city to city.

How can we move ahead with practical and cost-effective policy to reduce traffic congestion while considering the unique and complex characteristics of each city? This report makes four recommendations for Canadian policymakers.

RECOMMENDATION #1: Major Canadian cities should implement congestion pricing pilot projects, customized to their local context

As illustrated by case studies from Stockholm, Oregon, and San Francisco, trial periods for congestion pricing are low-risk policy initiatives. They can be voluntary for drivers, as in Oregon; take place for a limited time, as in Stockholm; and apply to a narrow scope of drivers, as in San Francisco.

Yet the benefits of such trials could be huge. If well designed, they can demonstrate the concrete benefits that congestion pricing can deliver. They can also provide opportunities for learning about how well different policy designs work in different contexts, thus allowing policy design to evolve and improve over time.

Municipalities best understand their own congestion context, and should play a major role in designing pilot projects. They should design their pilot projects according to their unique policy objectives and their local geography, governance, infrastructure, and attitudes and cultures. Different trial policies are not only more likely to succeed when customized to local context, but can also provide more information to other Canadian cities regarding what works and what does not.

The four proposals for congestion pricing policies for each of the country's four largest cities outlined in this report could form the foundation for time-limited trials in each city. The details of each proposal draw on lessons that emerge from experience with congestion pricing in other jurisdictions, take into account local context (gauged in part from interviews and polling), and consider key elements of policy design. They are not recommendations in and of themselves, but instead are intended as policy springboards to kick-start more detailed policy conversations in each city.

- **Metro Vancouver** has constrained geography bounded by mountains and ocean, polycentric travel patterns with multiple hubs of activity, and a complex governance structure with involvement from multiple municipalities and the provincial government. Applying variable pricing to each of the region's bridges and tunnels that cross waterways would be one way to price access to key driving arteries to reduce regional congestion.

- **Calgary** has low density, a lack of familiarity with congestion pricing, and more localized congestion problems. In this context, HOT lanes could be practical to implement, provide unpriced alternatives, and reduce congestion in key locations.

- The **Greater Toronto Area** has polycentric travel patterns with drivers travelling between multiple hubs in multiple directions and relatively unconstrained geography. Converting high-occupancy vehicle (HOV) lanes to HOT lanes or building new HOT-lane capacity on the provincially owned 400-series of highways—a backbone of the regional transportation network featuring the privately operated and variably tolled Highway 407—would be a practical approach for reducing congestion in the area.

- **Greater Montreal** has extensive commuting to and from the central Island of Montreal; relatively widespread congestion; an existing, time-varying toll on the Autoroute 25 bridge connecting the Island; and plans to replace—and toll—the aging, highly used, and federally owned Champlain Bridge. The natural cordon formed by the Island provides a practical opportunity to implement variable pricing on the full array of surrounding bridges and tunnel, harmonizing tolls and reducing congestion throughout the area.

RECOMMENDATION #2:
Provincial governments should initiate, enable, or facilitate congestion pricing pilot projects

Provincial governments can play multiple roles in enabling congestion pricing. First, not all roads are municipally owned and operated. In some situations, it is provincial governments that should directly implement congestion pricing policies. We consider approaches for Toronto, for example, that would price access to all or some lanes on the provincially owned 400-series freeways. While coordination with municipal government would be essential, the province should implement the congestion pricing policy.

Second, provincial governments should play a coordinating role. A key governance challenge in many urban areas (for example, Metro Vancouver and Greater Montreal) is the diverse collection of municipalities with highly linked and overlapping transportation corridors.

Finally, provincial governments should provide municipalities with explicit authority to implement congestion pricing policies. The existing legal framework for implementing road pricing in Canadian municipalities is unclear, and is complicated by overlapping jurisdictions. Generally, most municipalities are unable to implement broad congestion pricing on their own without changes to provincial policy. Provincial governments should reduce the existing ambiguity and make space for municipal policy by passing explicit legislation permitting municipalities to implement these policies.

RECOMMENDATION #3:
The federal government should help fund pilot projects

Funding for congestion pricing pilot projects remains a barrier. Physical and digital infrastructure will be required to set up, monitor, and enforce the pricing policy during the trial period. While revenue could be generated, the scale of this revenue is uncertain and depends on the details of how the policy is implemented. Municipalities have very limited revenue sources and could face significant financial challenges in initiating pilot projects.

Federal funding to establish pilot projects would generate benefits for Canadians well beyond the individual municipalities involved. Evaluation of these projects would lead to valuable lessons learned about congestion pricing policy design and implementation that could be applied in other Canadian cities. Additionally, the cross-country benefit of efficient goods movement means that the federal government has a direct interest in supporting regional congestion pricing.

Support from the U.S. federal government played an important role in at least two of the American case studies examined in this report. Federal support helped enable the parking-pricing trial period in San Francisco as well as helped finance the development of Minnesota's HOT lanes.

RECOMMENDATION #4:
Governments should carefully evaluate the performance of pilot projects, communicate the results broadly, and incorporate lessons learned into future mobility policies

The full benefits of pilot projects can only be realized if they are monitored over time, with data from before and after a project is implemented. The projects should be set up so that the impact on congestion, and also the overall administrative costs, can be measured and assessed. This analysis can help to communicate new, city-specific information about the efficacy of congestion pricing to stakeholders and to the general public. Demonstrating policy success can be a powerful tool for building public support.

This data-driven evaluation of the policy should be used to inform next steps. If the policy does not perform as well as anticipated, its design can be adjusted over time to respond to problems, or the policy can be terminated. If, on the other hand, the policy performs well, it can be expanded more broadly. Both the benefits and the costs of the policy should inform subsequent policy decisions.

Pilot projects are only a first step in addressing Canada's congestion problems. Yet as cities grow and congestion problems build, a starting point for smart policy is desperately needed. Demonstrating the effectiveness of congestion pricing on a small scale can create a launching pad for creating a transportation system that gets prices right—a transportation system that fosters cleaner air and more liveable cities, and ensures people and goods move efficiently, rather than wasting time in traffic.