TORONTO REGION BOARD OF TRADE

Breaking Gridlock

Congestion Action Plan for Toronto

FEBRUARY 2025

Letter from the CEO

The city has been stuck in gridlock for far too long. Fifteen years ago a Toronto Region Board of Trade report pointed to Toronto's commute times as the worst in North America—"Worse Than LA" blared one newspaper headline. Every year since, Toronto has ranked at, or near, the top of every list of the continent's most congested cities.

It's now almost routine for visiting sports and entertainment celebrities to post social media clips of themselves abandoning trapped vehicles as they race to their destinations. Goods sit idle when they should be on store shelves. Residents opt to stay home all together—avoiding family get togethers, new job opportunities, and job upskilling. Our economy, business and overall quality of life are being severely damaged.

Congestion strikes at our productivity and erodes our competitiveness. Investment attraction — a key ingredient for economic growth — is stifled by its impact. According to a recent report by CANCEA, the economic and social costs of congestion set the GTHA's economy back by a staggering $44.7 billion annually. And that cost could soar to $85.5 billion per year by 2044 if our population grows by another 2.1 million as projected, and congestion levels don't change.

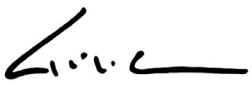
And now, as the threat of punishing tariffs from the U.S. has laid bare, as a city and country our acute economic vulnerability—and even threat to our sovereignty—Canadians want action to secure our economic future. With the GTHA accounting for over 20% of the national GDP, our region's congestion exacts a steep toll that neither Toronto, nor Canada can afford.

For Toronto, making a significant dent in our congestion crisis would be the single most powerful contribution by the City to unleash our economic potential.

This is why the Board is putting forward five high-impact, immediately implementable recommendations to get Toronto moving. Each action reinforces the others, for a comprehensive package to relieve congestion. This Action Plan is only the beginning. The Board is committed to working with the City and Province, monitoring progress, and engaging stakeholders to drive the full scale change we need.

I would like to thank the business leaders who committed their time, ideas and resources to form our Congestion Governing Council and our Congestion Task Force. Their passion and expertise have guided this Action Plan to unpack root causes and propose innovative multilayered approaches to dealing with congestion once and for all.

The Toronto region has all the ingredients to compete on the world stage, but if we remain stuck, we will never reach our potential. With these five recommendations here is how we break gridlock.



Giles Gherson, CEO
Toronto Region Board of Trade

Contents

About this Action Plan

In 2024, the Toronto Region Board of Trade (the Board) identified the congestion crisis as a top regional and economic challenge, dramatically increasing travel times for people, goods, and services, diminishing the city's livability, and severely impacting business competitiveness and productivity. To tackle this challenge, the Board convened a cross-sectoral Congestion Governing Council & Task Force of senior leaders from influential businesses with a significant presence in the Toronto Region, each aligned to get our city moving again. Over the course of many meetings in 2024, these leaders were presented with research, met with local and international experts, and discussed and debated priorities and solutions, which guided this plan. The Board is grateful for the invaluable insights and contributions from the Task Force, as well as the resources and strategic guidance generously provided by the Congestion Governing Council, which made this work possible.

This Action Plan was developed by the Board with writing by Atelier Creative. The plan draws on extensive congestion research and analysis from global consultancy and engineering firms: Steer Group, and Parsons Corporation, who were commissioned by the Board to better understand root causes and potential solutions. Furthermore, to understand public sentiment and the behavioural changes caused by congestion, the Board commissioned polling by IPSOS Canada.

The full reports supporting the Action Plan can be found here:

Parsons - Downtown Toronto Congestion Study

Parsons - Bottleneck Analysis and Best Practices

Steer - Road Blocks: Incentivizing Smarter Road Closures

GOVERNING COUNCIL MEMBERS

Alex Avery
CEO, Primaris REIT

John Ferguson
President & CEO, Purolator

Giles Gherson (Chair)
President & CEO, Toronto Region Board of Trade

Blake Goldring
Executive Chairman, AGF Management Limited

Sal Iacono
President & CEO, Cadillac Fairview

Doug Jeoffroy
SVP, Global Corporate Real Estate, RBC

Jon Love
Executive Chair & Founder, KingSett Capital

Paul Morassutti
Chairman, CBRE

Mushtak Najaral
SVP Strategic Sourcing and Enterprise Real Estate, TD Bank

Javier Tamargo
President & CEO, 407 ETR

Heather Tulk
President, Commercial and Public Sector, TELUS

Caroline Zayid
Managing Partner, Ontario Region, McCarthy Tetrault LLP

TASK FORCE MEMBERS

Susan Allen
President and CEO, BOMA Toronto

Roger Alouche
Senior Director, Operations, Purolator

Christina Basil
VP, Communications & Government Relations, 407 ETR

Shahz Beig
VP & Head, North American Corporate & Canadian Retail Real Estate and Transactions, TD Bank

Angela Bhutani
VP, Investment Counsellor, Burgundy Asset Management

Teresa Di Felice
AVP, Government and Community Relations, CAA Club Group

Gary Glasser
Managing Director, Head of Data Science and Strategy, Birch Hill Equity Partners

Shadi Hagag
Founder and CEO, Trans-Plan

Kevin Hardy
VP & Head of GTA Office Portfolio, Oxford Properties

John Kiru
Executive Director, Toronto Association of Business Improvement Areas (TABIA)

Kurtis McBride
Co-Founder and CEO, Miovision

Laura Miller
Director, Public Policy and Communications, Uber

Brad Nicpon
Partner, McCarthy Tétrault

Laurette Rajotte Martorana
Director, Products and Services, TELUS

Andrew Robertson
Planning and Advocacy Manager, Toronto Financial District BIA

Brian Salpeter
EVP, Development, Cadillac Fairview

Rob Strickland
President, Fidelity Investments Canada

Jennifer Sullivan
VP, Operations & General Manager Maple Leaf Sports & Entertainment (MLSE)

Ken Tsang
CFO, AGF Management Limited

Chris Tyrell
VP, Planning, Transportation & Infrastructure, WSP Canada

The Board would also like to acknowledge past Task Force members who moved on to new roles during the tenure of this project: Josh Colle, Grant Humes, and Nicole Wang.

The recommendations and analysis presented in this report do not necessarily reflect the stance of particular individuals or institutions on the Congestion Task Force or Congestion Governing Council. Any errors of fact or interpretation are the authors'.

Executive Summary

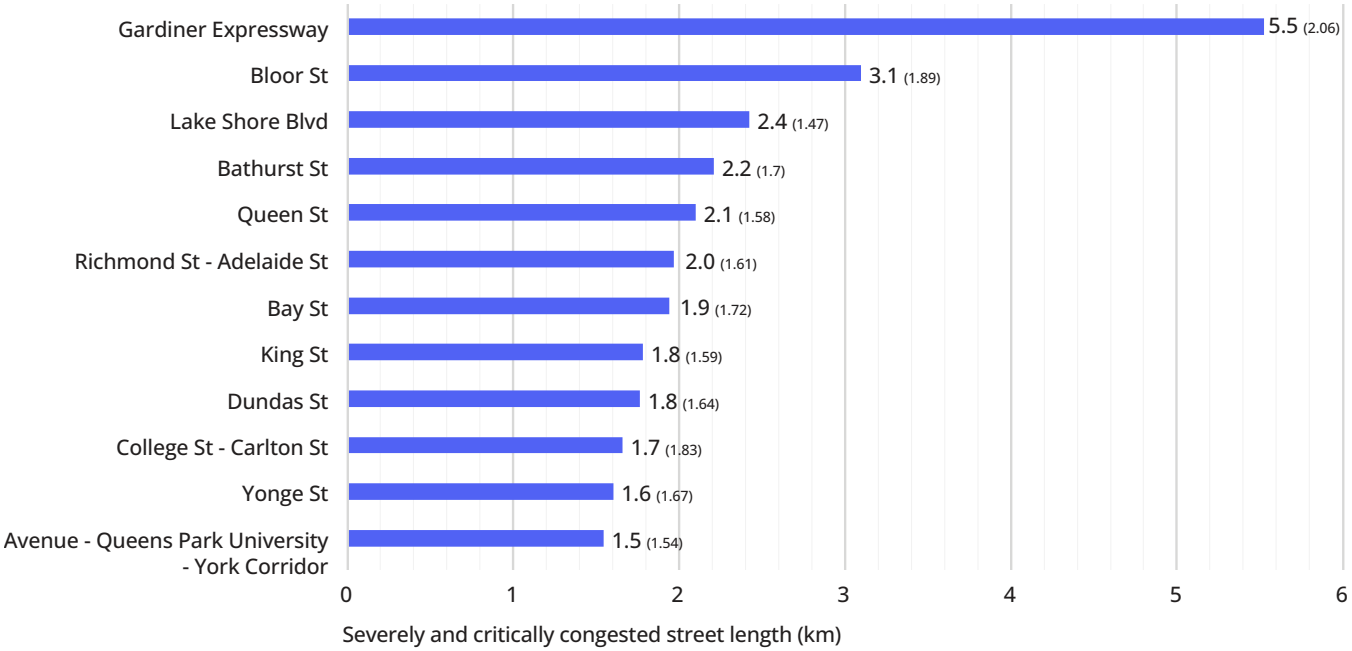
Toronto's traffic congestion has reached crisis proportions and demands urgent action from civic leaders. Gridlock corrodes the life of the city, complicates commuters' daily routines, makes transit less reliable, and inhibits our economy's competitiveness, productivity, and long-term prosperity.

For this Action Plan, the Toronto Region Board of Trade (the Board) commissioned the global engineering firm Parsons to conduct an in-depth analysis of traffic in the region's core business district. Their research paints the most comprehensive portrait to date of Toronto's gridlock: its traffic volumes and travel times, its pinch points and hotspots, its root causes and ripple effects. Parsons' findings showed the extent of congestion on the core's major arterial roads, with traffic backed up for kilometres at a stretch, particularly on its east-west corridors, dramatically extending travel times for anyone traveling those routes.

Many arterial routes are beset with construction that occupies entire lanes for months or years, compounded by competing street uses such as bike lanes, on-street parking, and curb-lane cafés, as well as frequent curbside activities like deliveries, taxi and ride-hailing pickups, all of which reduce road capacity. The Board also commissioned the global infrastructure consultancy Steer to assess the cost of lane closures and review best practices among Toronto's comparator cities. In fact, many cities forbid the practice of lane closures during peak travel times, and employ a variety of pricing mechanisms — fees that increase over time, rebates for work completed ahead of schedule — to incentivize faster project timelines. Toronto, by comparison, charges relatively low fees for lane closures and takes few steps to ensure that lanes are returned to traffic use as soon as possible.

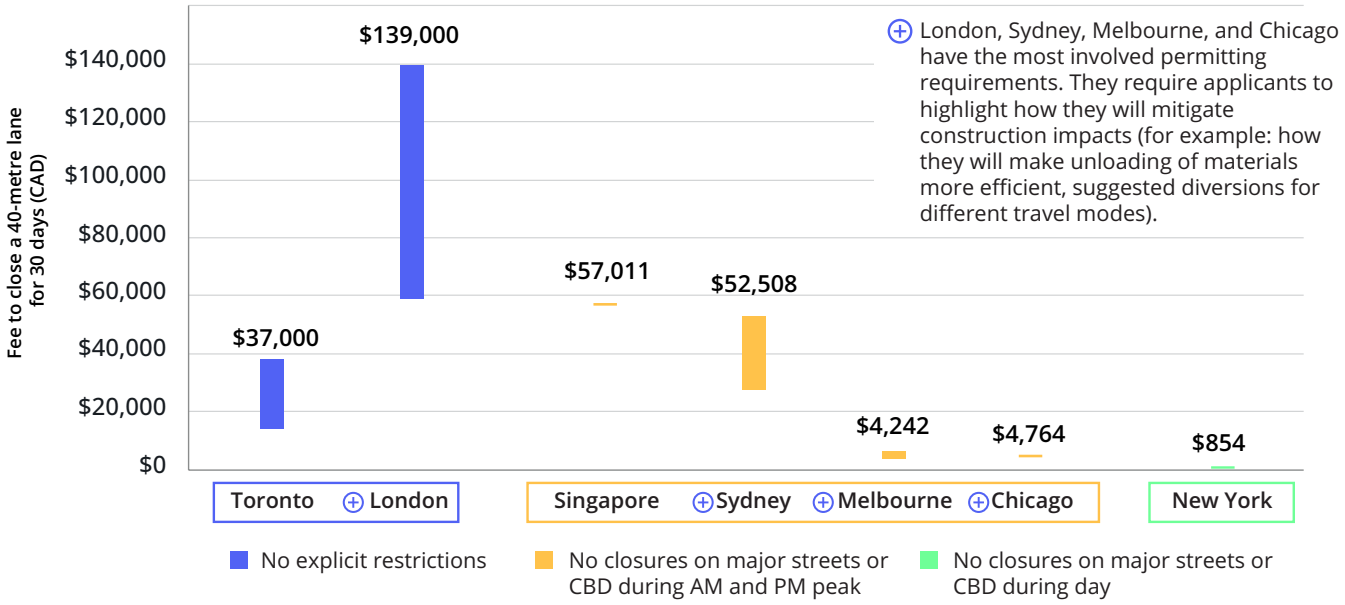
Both Parsons' and Steer's findings are detailed throughout this Action Plan. What the data makes clear is that Toronto's congestion crisis is a crisis of management and inadequate planning. Gridlock can be alleviated through concerted, coordinated action in five key areas.

Figure 1: Congestion extent (in kilometres)



Description: Extent of Severe and Critical Congestion (Parsons. Source: HERE Travel Time Analysis, January 2023 to July 2024). Time Travel Index noted in brackets.

Figure 2: Lane closure fees and permit requirements across jurisdictions



ACTION 1

Reduce Lane Closures

With traffic volumes and trip demand at their peak, we must set a higher bar for lane closures and take steps to actively manage their duration.

1. PRICE LANE CLOSURES TO INCENTIVIZE FASTER, BETTER CONSTRUCTION

While Toronto charges $37,000 per month to close a lane of traffic for construction, Steer calculated the social and economic costs of a major arterial lane closure at $1.7 million per month. These costs should be embedded into the decision-making process for granting lane closures, with the most impactful closures being subject to the greatest requirements.

2. MAKE OFF-PEAK CONSTRUCTION ON MAJOR ARTERIALS THE NORM

Cities such as Singapore, New York, and London don't permit road closures during peak travel hours. Toronto can do the same by restricting closures on major arterials during peak travel times and discounting permit prices for work conducted off-peak. Where possible, allowing up to 24/7 construction would substantially shorten the completion timelines for all projects that adopt it — just as it has for the Gardiner Expressway.

ACTION 2

Enforce the Rules of the Road

Driver behaviour is deteriorating. 55% of Ontario drivers admit to engaging in risky and unsafe driving behaviour. Blocked intersections and double-parking are major contributors to transit delays and gridlock. Police officers and traffic agents can't be everywhere. Technology can help.

1. ENHANCE ENFORCEMENT AT INTERSECTIONS

The city's red light cameras have the capability to issue block-the-box infractions at the intersections where they are located. A simple amendment to Ontario's Highway Traffic Act can put an end to box-blocking through automated enforcement.

2. ENHANCE ENFORCEMENT ON MAJOR ARTERIALS

The city and Province should begin discussions on the use of camera and license plate recognition technology to issue infractions for double-parking or stopping in bike lanes and bus stops. Adopting the technology for these infractions will cost-effectively deter this behaviour.

ACTION 3

Unclog the Arteries

There is a need for a coherent all-of-city approach to arterial roads, rather than a localized neighbourhood approach. The top five most congested corridors in the downtown are all are east-west arterials. They no longer serve their intended purpose: to keep traffic flowing.

1. DESIGNATE SELECT EAST-WEST PRIORITY CONNECTOR ROADS FOR VEHICULAR TRAFFIC.
Major "connector" roads should be clearly defined and actively managed as a network, with a clear understanding of which connectors will absorb additional traffic when another is disrupted. These roads should be subject to annually-published Key Performance Indicators (KPIs) in terms of travel time, volumes, or throughput.

2. REBALANCE THE COMPLETE STREETS OBJECTIVES FOR PRIORITY CONNECTOR ROADS.
To optimize dedicated connector roads for vehicles, competing uses may have to be moved to neighbouring streets – either temporarily or permanently:

- Move bike lanes off dedicated connector roads so that both motor vehicles and bicycles have a dedicated network throughout the city core.
- Move parking off-street wherever neighbouring off-street parking lots, many of which are currently underutilized, can handle parking demand — whether during peak periods or all hours of the day.
- Limit curb lane cafés based upon their impact on circulating traffic.
- Incentivize off-peak deliveries through regulatory adjustments, financial incentives, and targeted pilot programs. Measures could include reduced permit fees for nighttime or early-morning operations of businesses that receive off-peak deliveries.

ACTION 4

Clear the Bottlenecks

The traffic snarls that surround the Gardiner Expressway slow the whole network down. A few simple changes can help alleviate the confusion and help drivers make better decisions.

1. RE-ENGINEER TRAFFIC FLOW AT THE GARDINER-HARBOUR NEXUS.
Physically separating the traffic streams and restricting turning movements on Harbour and York Streets will eliminate weaving conflicts. Implementing lane-change restrictions on the Gardiner between York and Spadina will serve the same purpose.

2. PILOT RAMP METERING FOR KEY ON-RAMPS.
Adding traffic signals to the Gardiner on-ramps at York and Spadina will provide greater predictability, prevent surges, and maintain smoother flow.

3. PROMOTE ZIPPER MERGING.
The "zipper method" takes the guesswork out of merging onto busy expressways. With targeted signage and public education, zipper merging can reduce backups by up to 40%.

ACTION 5

Implement Accountability Mechanisms

It is clear that a cultural shift in how we plan and govern mobility is necessary. The current approach to transportation decision-making is often reactive, fragmented, and politicized, leading to inefficiencies, delays, and missed opportunities for alignment.

1. ESTABLISH A CULTURE OF ACCOUNTABILITY FOR GRIDLOCK AT CITY HALL.
Toronto City Council should establish a new reporting structure, such as a cross-departmental commissioner, to consistently review all city business

through a congestion impact lens and troubleshoot congestion hot spots. The recommendations of this Action Plan serve as inspiration for what such a structure's duties might be: monitoring and publishing KPIs for traffic flow; overseeing enforcement initiatives and the management of dedicated connector roads; reforming the city's lane closure permit and pricing regime; and more.

2. IMPLEMENT A MECHANISM FOR DECISION-MAKING AT THE REGIONAL LEVEL. Traffic congestion is a regional issue that impacts the entire Greater Toronto and Hamilton Area (GTHA). Key transportation arteries cross municipal boundaries, making regional coordination essential, including among transit agencies. An intergovernmental table could ensure that municipalities and agencies are not working at cross purposes, which can exacerbate gridlock and waste resources.

Toronto's Future: What Lies Ahead

The actions listed above will help alleviate gridlock now. The region must plan ahead to avoid a repeat of the congestion crisis.

1. Make safe, efficient, and reliable transit the backbone of regional mobility with a focused approach on rapid transit expansion, service integration, public-private partnerships for first- and last-mile solutions, and a commitment to ensuring transit is secure, accessible, and dependable.

2. Maintain and grow multi-modal transportation capacity by protecting critical logistics hubs, expanding freight corridors, and strengthening connections between air, rail, road, and marine networks. Strategic land-use planning must balance urban growth with the infrastructure needed to sustain goods movement and economic competitiveness.

3. Future-proof our thinking about urban transportation, including the implementation of limited pilot projects for congestion pricing once sufficient transit options are available, and planning for the integration of technologies such as e-scooters, drones, and autonomous vehicles.

A Final Note

Piecemeal solutions have proven ineffective. The Board will continue to serve as a catalyst for the business community and civic leaders across the region as we advocate for the measures recommended in this Action Plan. By taking action on multiple fronts at once—pricing and managing lane closures, enforcing road rules with automated technology, designating and optimizing priority connector roads, re-engineering bottlenecks, and establishing clear accountability mechanisms—we can get Toronto and the region moving once again.

INTRODUCTION

City at a Standstill

Data-Driven Insights on Toronto's Traffic Congestion

It's widely known that Toronto region commuters suffer some of the longest travel times in the world.[1] Such rankings help contextualize the urgency of the city's congestion problem, but they do little to deepen our understanding of the problem or lead us to workable solutions of any kind. To solve our congestion crisis, we need better data.

For this Action Plan, the Toronto Region Board of Trade (the Board) commissioned a series of independent research studies with Steer Group and Parsons Corporation and complemented these efforts with existing findings and research. The research provides a common benchmark for discussing congestion and paints a halting portrait of a city whose traffic congestion is only getting worse, hampering economic prosperity and eroding quality of life. Our research partners analyzed a variety of data sources and identified root causes of congestion, allowing us to develop targeted, practical, and impactful interventions.

Setting the Stage: A City in Crisis

In July of 2024 the Board commissioned opinion research firm Ipsos, to survey 1,000 GTHA residents about their perceptions and the behavioral impacts of congestion. The results were startling: 86% of respondents agreed that we have a congestion crisis.[2]

Large proportions of respondents said that congestion caused them to avoid venturing out for simple, everyday enjoyments; that it took a personal toll in time, money, and stress; that it hampered their working lives; and that it caused them to consider leaving the region altogether. The survey results provided a clear consensus on the urgent need for reform. The city's sense of itself, as a place that offers a high quality of life and opportunity to pursue personal growth and collective ambition, is withering under the strain of congestion.

Further research conducted by the Canadian Centre for Economic Analysis (CANCEA), *Impact of Congestion in the GTHA and Ontario*, quantified congestion's impact on the region's prosperity at a macroeconomic scale. Among their findings, CANCEA reports that the cumulative losses from congestion are significant. If heavy congestion had been reduced over the past decade so that commuters experienced only 2 days of congestion per week:

- Real GDP in the GTHA would be $27.9 billion higher today, for an additional $3,400 of GDP per capita.
- Private capital investments have increased by $5 billion.
- Some 88,000 more jobs would have been generated in the region.[3]

The longer congestion goes unaddressed, the higher the losses climb.

GTHA RESIDENTS' STATEMENTS ABOUT TRAFFIC CONGESTION (% AGREE)
There is a congestion crisis (86%) Negatively impacts the economy (85%) A serious problem for my household (63%) Have considered leaving the region (53%)
IMPACT A clear threat to the present and future
Reluctant to travel to work (62%) Less productive at work (59%) Makes them late for meetings (58%)
IMPACT Low morale, lost productivity, stalled careers
Avoid shopping (42%) Avoid going out for entertainment (42%) Avoid restaurants (48%)
IMPACT Businesses are suffering
Costs them money (45%) Commute times up in the last year (42%) Causes them stress (40%) Avoid visiting family and friends (31%)
IMPACT Quality of life in decline

Table 1: TRBOT-Ipsos Congestion Survey Results

Understanding Congestion

New and Comprehensive Research

While polling results and macroeconomic analyses help us understand the impacts of congestion, they don't help us understand the phenomenon of congestion itself. This prompted the Board to commission Parsons, a leading global engineering firm, to conduct a comprehensive current-state and root-cause analysis of downtown Toronto traffic. The research combined data from a range of sources to identify congestion's underlying conditions, its traffic patterns, and its root causes.[4]

At its core, congestion occurs when the volume and modal choices of drivers, pedestrians, and cyclists exceed the capacity of a roadway, pathway, or transit system to maintain efficient flow, leading to reduced throughput, longer travel times, delays, and behavioral shifts that diminish the efficiency of the transportation network.

To establish a common baseline, congestion is characterized through four key components:

SEVERITY
The degree of congestion compared to desirable conditions.

EXTENT
The proportion of the transportation network or number of travelers affected by congestion.

DURATION
The length of time congested conditions persist before returning to optimal traffic flow.

VARIABILITY
The fluctuation of congestion at different times and days.

Current State: The Post-Pandemic Grind

In the immediate aftermath of the COVID-19 pandemic, amid growing concerns about infection risk on crowded transit vehicles, more people in the Greater Toronto Area (GTA) chose to travel in their cars. Today, three years after the pandemic, the increased reliance on private vehicles continues to rise. From May 2021 to May 2023, the number of workers mainly commuting by car in Toronto rose from 600,000 to more than 2 million.[5] The shift in mode share towards cars is more pronounced among Toronto residents (10% vs. 4% on average) than among those from the surrounding regions, as shown in Table 2.

Further analysis shows the extent to which congestion has intensified over the last five years. Toronto's roadways are now congested for more hours of the day than they were before the COVID-19 pandemic — a total of 11 hours in moderate congestion in 2024 (nearly half the entire day), up from 9 hours in 2019. As shown in Figures 1 and 2, congestion has also spread to a larger number of roadways during peak hours. Notably, people are arriving downtown at different times of the day, but are leaving around the same time, thus exasperating the weekday peak period. Travel times are up, and average speeds are down, during nearly all hours of the day.

CONGESTION 101: DATA AND DEFINITIONS

The labels "moderate," "severe" and "critical" congestion correspond to results derived from the Travel Time Index (TTI), a ratio measuring the extra time a trip takes during peak periods.

$$\text{TTI} = \frac{\text{Peak Period Travel Time}}{\text{Free Flow Travel Time}}$$

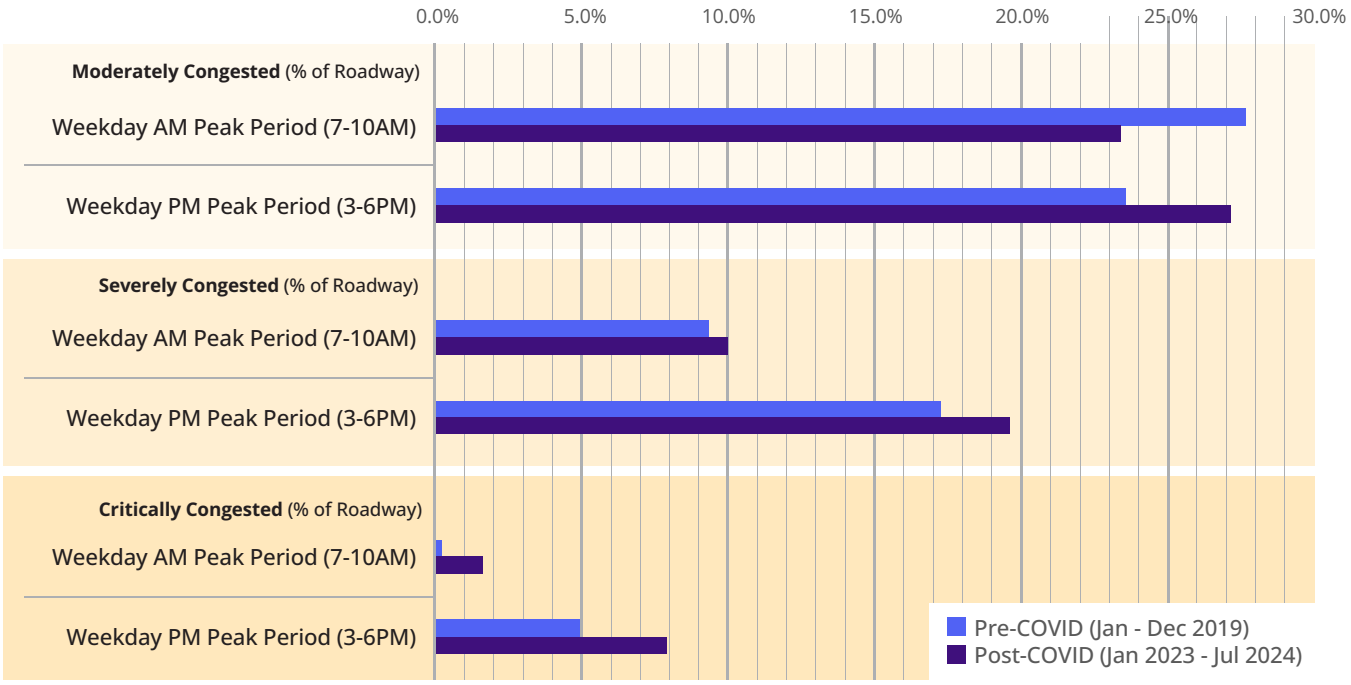
Label	TTI	A 30-min trip takes...
Moderate	1.5 – 2.0	45 - 60min
Severe	2.0 – 3.0	60 - 90min
Critical	3.0 +	90min +

Table 2: Regional Mode Share

	2016		2021		Change (2016 to 2021)	
	Car (as driver or passenger)	Sustainable and Other (transit or AT)	Car (as driver or passenger)	Sustainable and Other (transit or AT)	Car (as driver or passenger)	Sustainable and Other (transit or AT)
Toronto	50.4%	49.5%	61.0%	39.1%	10.6%	-10.4%
Durham Region	84.4%	15.6%	89.1%	10.9%	4.7%	-4.7%
York Region	83.7%	16.3%	88.8%	11.2%	5.1%	-5.1%
Peel Region	81.1%	18.9%	85.0%	15.0%	3.9%	-3.9%
Halton Region	84.5%	15.6%	88.8%	10.2%	4.3%	-5.4%

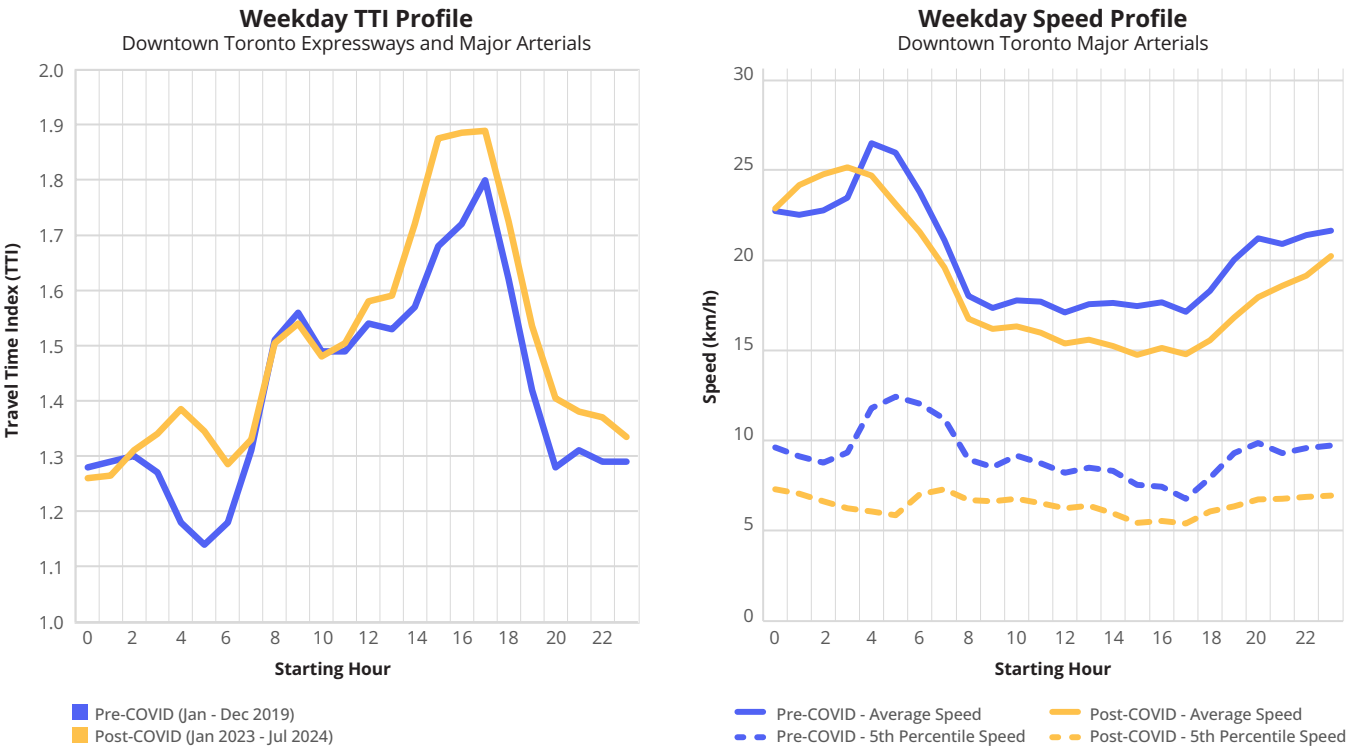
Source: Parsons Report. Data: Statistics Canda Census 2024

Figure 1: Percentage of Roadways Congested[6]



Description: Percentage of Roadway Congested – Downtown Toronto Expressways and Major Arterials (Parsons. Source: HERE Travel Time Analysis).

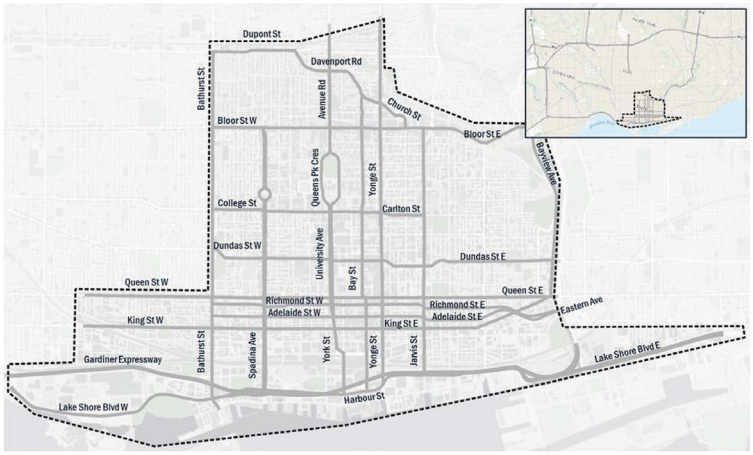
Figure 2: Weekday TTI[7] and Speed Profiles[8]



Description: Travel Time Index Profile – Downtown Toronto Expressways and Major Arterials Speed Profile – Downtown Toronto Major Arterials (Parsons. Source: HERE Travel Time Analysis).

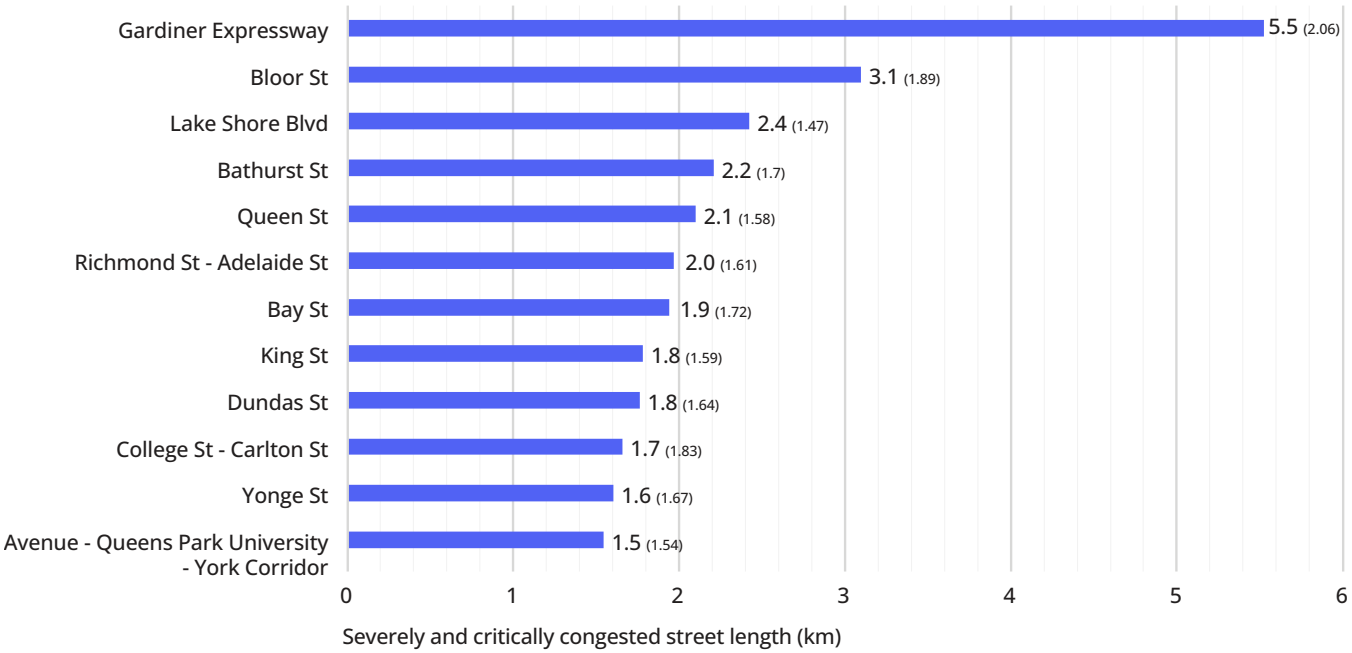
The data reflects what Torontonians experience daily on downtown streets: slow-moving bottlenecks that back traffic up across multiple intersections. **We studied this issue in greater depth exclusively in the downtown core – the nexus of Ontario and Canada's economic and innovation ecosystems.**

As shown in Figure 3, during peak periods, twelve major downtown corridors — four running north-south and eight running east-west — suffer from severe or critical congestion stretching longer than a full kilometre, resulting in substantially high TTI measures.



Map of the study area in Downtown Toronto

Figure 3: Downtown Corridors with Severe Congestion Distances Longer than 1 km[9]



Description: Extent of Severe and Critical Congestion (Parsons. Source: HERE Travel Time Analysis, January 2023 to July 2024). Time Travel Index noted in brackets.

THE WEEKENDS ARE WORSE, TOO

While the weekend peak period takes place at different hours of the day, in a single block of time from 1-6 PM, its congestion is worse than morning weekday rush hour. **Weekend gridlock is worsening across all measures studied.**

Weekend Measure	Pre-COVID (2019)	Post-COVID (2023-24)
Daily hours in moderate congestion	7	9
Percent of roadways with severe or critical congestion	14%	22%
Peak travel time index (TTI)	1.54	1.67
Time for a 30-minute trip at peak TTI	46 min	50 min
Average speed, 4-5 pm	21 km/h	17 km/h

ANALYSIS

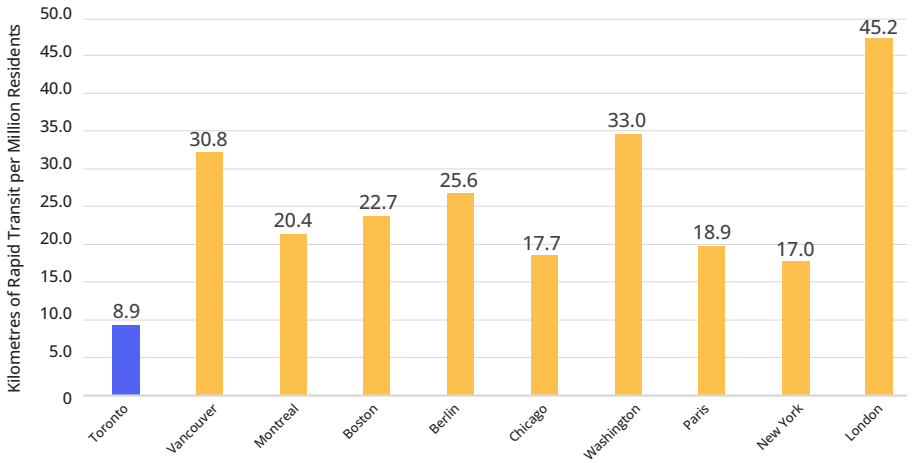
The Root Causes of Congestion

City streets did not grind to a halt overnight: a multitude of factors have combined to create the city's current gridlock. Many of them have been percolating over time, only to intensify in the post-pandemic period.

Root Cause 1: Lack of Rapid Transit

The surest antidote to congestion is the expansion of public transit services, especially rapid transit routes — subway and LRT lines that offer travelers swift, frequent and dependable service across the city and region, making them a viable alternative to private vehicle commuting. For 40 years, Toronto failed to expand its rapid transit network swiftly enough, adding less than 10 km of rapid transit per year from 1980 through 2022. Toronto's rapid transit network actually shrank in 2023, when the closing of the Scarborough Rapid Transit Line subtracted 6 km from its total. Today, Toronto's rapid transit network trails those of its comparator cities, whether measured in total size or in length per capita, as shown in Figure 3.

Figure 3: Rapid Transit System Length[10]



Toronto is now working to catch up to its peers and meet its rapid transit needs. Over 70 km[11] of rapid transit are currently in procurement and construction, including the Ontario Line, the Eglinton Crosstown LRT, and the Scarborough Subway Extension. But they won't help relieve congestion until they are fully operational.

Description: Comparisons of Various City's Rapid Transit System Length (Parsons. Calculation based on various sources). Note, this analysis only includes light rail or rapid transit systems and does not include commuter or suburban rail.

Root Cause 2: Demographic Trends

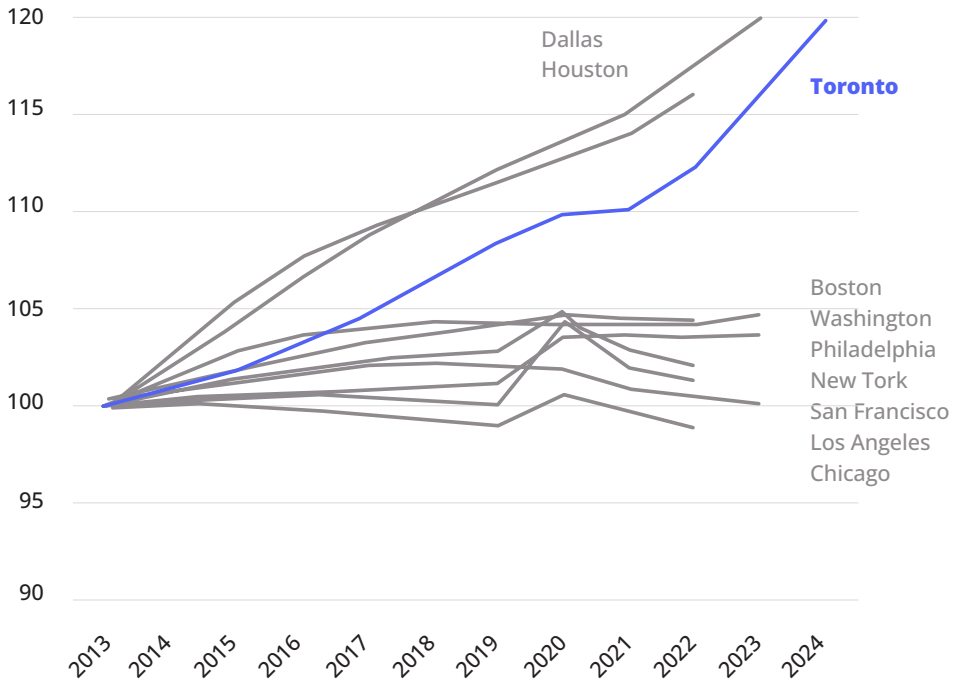
The Greater Toronto and Hamilton Area (GTHA) has experienced a lengthy and pronounced period of population growth in the last 15 years. As Table 3 shows, that growth has exploded since 2021, exerting substantial pressures on the grid.

Table 3: GTHA Population Growth, 2011-2023[12]

	2011	2016	2021	2023
POPULATION	6,054,191	6,954,433	7,281,694	7,969,158
INCREASE		+900,242	+327,261	+687,464
AVG. GROWTH		+180,048 /year	+64,452 /year	+343,732 /year

The astronomical growth rate distinguishes the Toronto region[13] from many of its North American peers:

Figure 4: Population Trends, Major American Cities



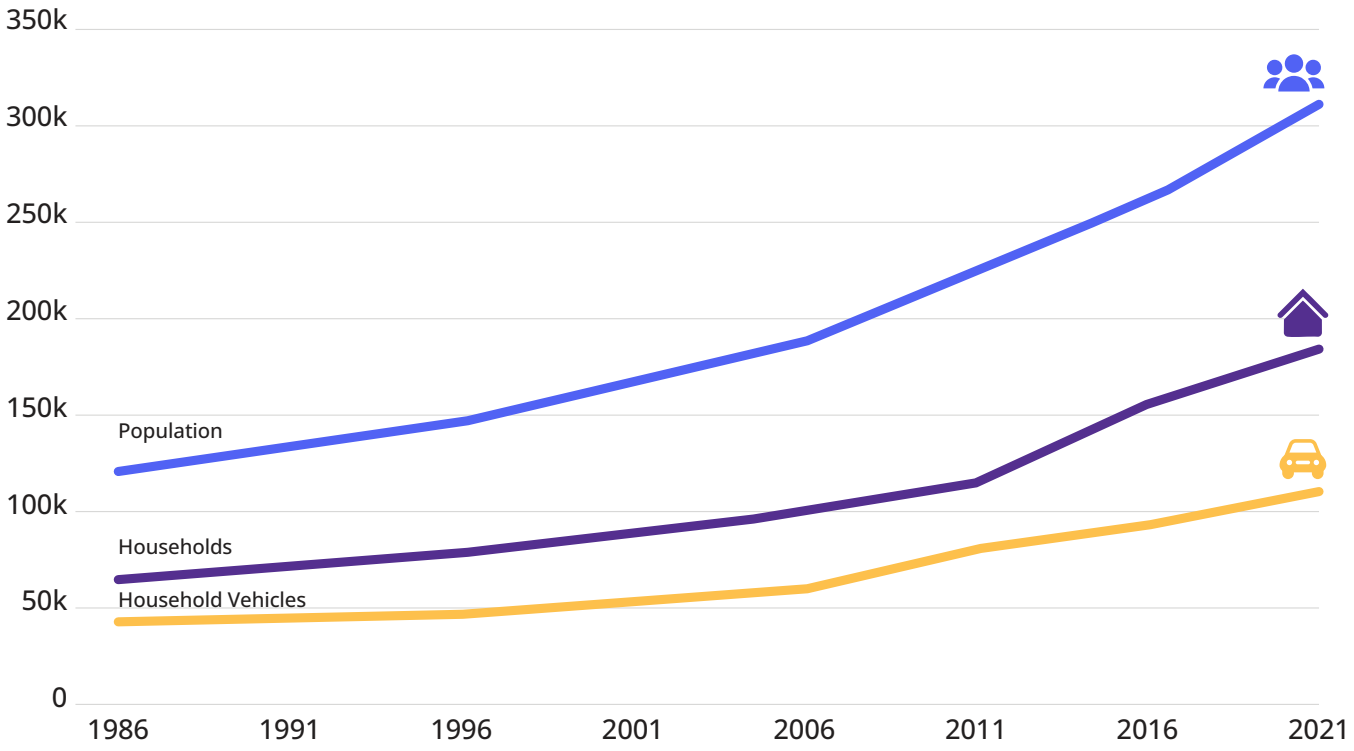
An increase in population results in a concurrent increase in vehicular travel: since 2001, municipalities in the GTHA have experienced a 37% increase in the number of cars on the road, compared to just 17% outside the GTHA. Truck volumes have also risen by 32%, all exerting substantial pressure on the region's roadways.[14] Meanwhile, during that same period, the proportion of trips made by car has remained steady: private vehicles account for more than half of all morning trips made by Toronto residents, and for nearly 70% of all trips made in the rest of the GTHA.

The region's population growth has applied significant pressure on GTHA roadways with more vehicles and ever-increasing trip demand. It has also amplified the impacts of slow rapid transit construction, as the absence of viable rapid transit alternatives increases household dependency upon private vehicles.

Toronto is the epicenter of transportation within the region. Pre-pandemic, 32% of all trips (across all modes) made within the GTHA and adjacent regions were destined for Toronto. When looking only at work-related trips during the morning peak (6 AM–9 AM), that number rises to 39%. While these figures predate the pandemic, commuting patterns have rebounded, with more GTHA residents once again traveling to Toronto for work.[15]

In recent decades, the unprecedented boom in downtown condominium development has transformed the area into more than just a workplace—it is now a vibrant place to live and visit. Nearly 60% of all condominiums built between 2002 and 2018 were located in the Downtown and Central Waterfront areas—despite these areas comprising less than 5% of Toronto's land area. Figure 5 illustrates the rapid growth in population, households, and the resulting increase in household vehicles in downtown between 1986 and 2021.

Figure 5: Downtown Growth: Population, Households and Vehicles[16]



Description: Downtown population, households and household vehicles from 1986 to 2016. (Source: Transportation Tomorrow Survey (TTS) 2016; Census data).

Table 4: Right-of-Way-Blocking Construction by Type (2023)[17]

	City-led construction	Utility work	Transit expansion (Metrolinx works)	Development work	Toronto Transit Commission (TTC)
PROPORTION OF ACTIVE WORK ZONES	47%	38%	8%	5%	2%
PROPORTIONAL TIME ON RIGHTS OF WAY	8%	2%	42%	33%	8%

Root Cause 3: Construction

As noted earlier, Toronto is undergoing a significant expansion of its rapid transit network—one of several major construction activities contributing to congestion. While transit expansion is only one of five categories of construction affecting city streets (as shown in Table 4), it accounts for a disproportionate share of right-of-way blockages. Unlike shorter-term utility repairs or city maintenance work, fixed-location transit projects and large-scale residential developments can occupy lanes for months or even years, significantly impacting traffic flow.

In 2025, all active and planned work zones through the end of 2025 will occupy 550 kilometres of roadway, or roughly 10% of all Toronto streets.[18] But that figure can vary on a day-to-day basis: according to the City of Toronto,[19] at one time in 2024, 18% of all road capacity was temporarily closed for construction. While this work is essential, the sheer volume of closures in a single day points indicates room to improve planning and coordination.

Root Cause 4: Competing Demands on Our Roads

Toronto has 5,600 kilometres of streets, a statistic that hasn't changed in decades.[20] This unchanging road network must now accommodate more people, more vehicles, and more trips. With ever-increasing demand, the value of road space has risen dramatically. That value can only be fully realized through its ability to move traffic efficiently.

Under Toronto's Complete Streets approach, road space is often accommodating multiple uses, including vehicle lanes, sidewalks, cycling infrastructure, utilities, street landscapes and more.[21] One of the primary challenges in implementing complete streets is the limited street width in dense urban areas. Many downtown Toronto streets have a right-of-way of only 20 metres.

Meeting these competing needs within constrained spaces requires strategic trade-offs: on any given street, space devoted to one mode of travel puts other modes at a disadvantage. But the effectiveness of these trade-offs depends upon road space being used as intended. When the competing pressures for road space intensify, the trade-offs break down as all spaces are forced to accommodate all uses. That's why we sometimes see delivery trucks, taxi and ride-hailing vehicles unable to find curbside space for pick-ups and drop-offs and blocking traffic in central lanes. It's why we see vehicles park in cycling lanes and bicycles riding on the sidewalks. And it's why blocking-the-box behavior at intersections has proliferated. The competing demands on Toronto's network, and our inability to manage them effectively, have created the paradox on its roads: a free-for-all that leaves everyone at a standstill.

Five Actions to Get Toronto Moving Now

Congestion in Toronto has become so endemic that travelers in the city have grown resigned to it. But as the data makes clear, the congestion crisis is both a crisis of management and a failure of long-term planning—we have not adequately prepared for population growth and lack a strategic approach to prioritizing road space. Addressing these root causes is critical to ensuring that the region's transportation network can efficiently move people, goods, and vehicles of all kinds.

At the same time, there are actions we can take now to alleviate gridlock. There is an urgent need for change and a broad-based civic desire for solutions that can have an immediate impact. The chapters that follow outline specific measures that decision-makers can implement today—along with the management tools and levers available to them—to ease congestion. This Action Plan also identifies key priorities for long-term traffic planning as the city continues to grow. Taken as a whole, it provides a blueprint for both near-term improvements and the long-overdue systems-level transformation Toronto needs.

1 Reduce Lane Closures

2 Enforce the Rules of the Road

3 Unclog the Arteries

4 Clear the Bottlenecks

5 Implement Accountabily Mechanisms

ACTION 1

Reduce Lane Closures

The vast majority of the region's current roadway and expressway network was built decades ago and is largely unchanged since. It effectively reached its vehicular capacity in the 1970s, when the city's population was less than half of what it is today. A half-century later the city's population continues to grow, adding more drivers, cyclists and pedestrians to city streets. When a lane of traffic is closed for construction, its impacts on traffic flow can extend for blocks. Given Toronto's volume of building activity, multiple lane closures reverberate citywide.

We must set a higher bar for lane closures and take steps to actively manage their duration and impact. The private sector must be challenged and incentivized to plan proactively, innovate, and collaborate. The city and Province need to create the conditions for success and lead their own projects by example.

Improving Construction to Improve Congestion

Because construction is one of the root causes of congestion, better management of construction is one of the most impactful actions that we can take to alleviate congestion immediately. Better construction practices would also improve public opinion: according to the Ipsos survey, 68% of Torontonians agree that construction is the main cause of congestion.

Torontonians also favour significant intervention to get traffic moving again, with 76% of respondents indicating support for 24-hour road and public transit construction. Recent experience shows that such measures can have a substantial impact. When the three-year rehabilitation of the Gardiner Expressway began in April 2024, travel times increased by as much as 250%.[22] The city and the Province quickly came together to extend construction to 24 hours a day, shortening the project timeline from three years to only two. The city has also taken a number of other steps in recent months under the aegis of its recently updated multi-year Congestion Management Plan to better manage construction's impact, including a greater emphasis on coordination of projects, engagement with stakeholders, utilities, and a focus on leveraging technology.

To better understand the task of construction management, the Board commissioned Steer, a global business consultancy in infrastructure and transportation, to quantify the broader economic cost of lane closures and pinpoint applicable best practices from peer jurisdictions to guide us to an approach that treats the roadway like the scarce resource that it is.

The Cost of Lane Closures

The impacts of road closures can be divided into two types: impacts to travellers (most notably increased travel times and vehicle operating costs) and impacts to communities (such as the increased pollution that results from congestion). Combined, these impacts represent the socioeconomic cost of closures.

By knowing the socioeconomic costs and benefits of closing a lane or roadway, we can be more deliberate and intentional about which closures to permit, how long they should last, how their impacts should be mitigated, and how the closure permit should be priced.

To plan, price, and permit road closures based on their socioeconomic costs and benefits, we need a standardized approach for calculating them. Using a detailed methodology in part drawn from the Business Case Guidance used by Metrolinx,[23] Steer quantified the socioeconomic costs of individual lane closures in Toronto (Figure 1.1).

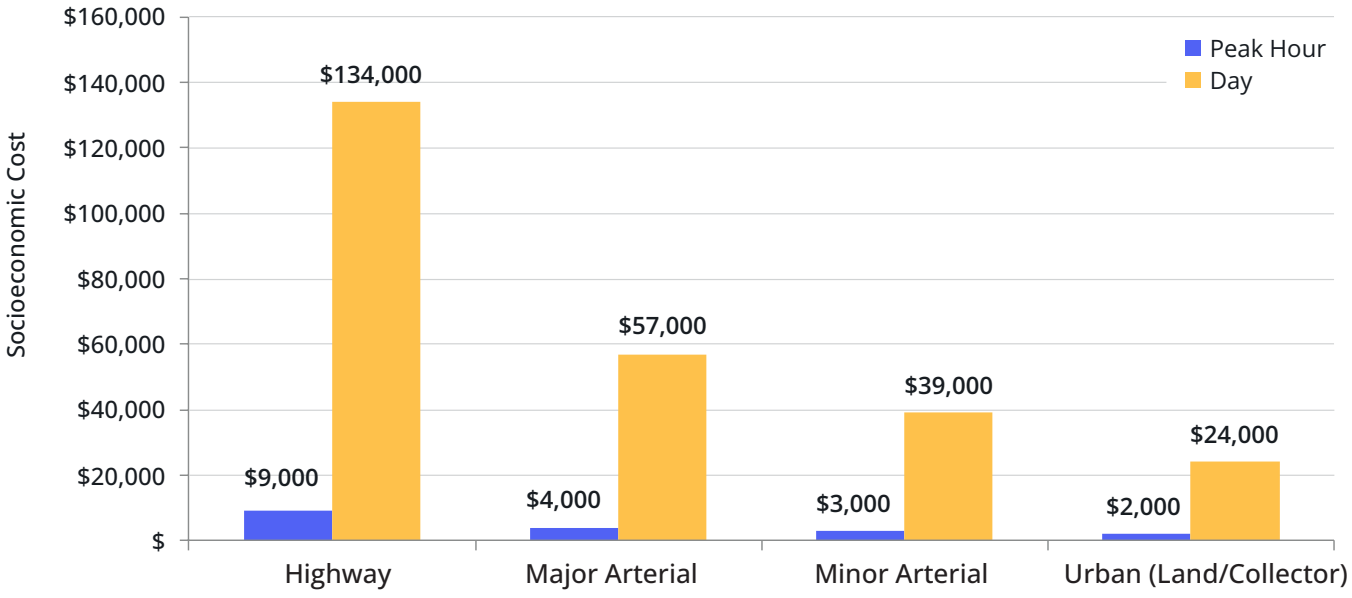
Not all lane closures are created equal: closing a highway lane entails more than double the socioeconomic cost of closing a major arterial road, given the volumes of traffic and the average speeds for each road type. But the cost for all types of lane closures is substantial, and it adds up quickly.

A major arterial lane closure for a single month entails socioeconomic costs of $1.7 million; a year-long closure costs
$20 million

Closing two lanes on the Gardiner expressway for two full years, as currently envisioned, comes with socioeconomic costs of roughly
$200 million

The cost of 550 kilometres of lane closures in the course of a single year (roughly 10% of the city's total road network), based upon an average of non-highway lane closure costs, totals
$8 billion+

Figure 1.1: Socioeconomic Cost of Lane Closures in Toronto for 1km Across Different Road Types

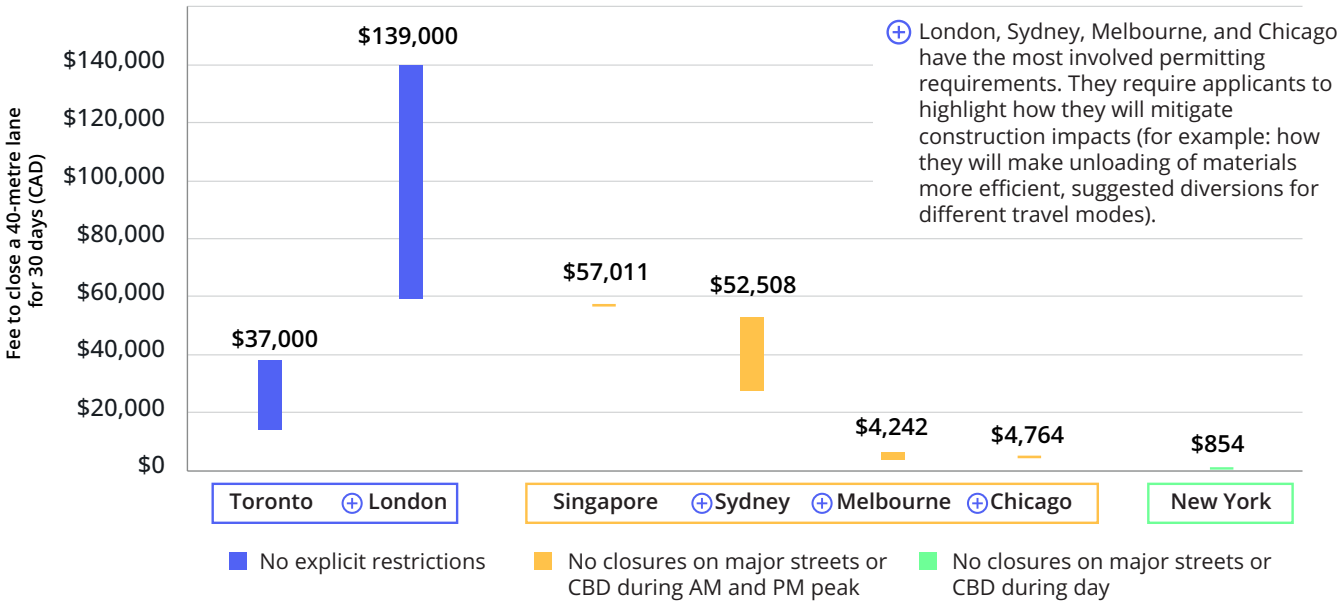


These costs stand in stark contrast to the fees charged by the City of Toronto for construction-related lane closures: a maximum of $37,000 for a 30-day right-of-way occupancy, recouping just 2% of costs for a major arterial road. The city's pricing for a lane closure is based upon neither socioeconomic impact nor the importance of the street to the transportation network, but upon the lost revenue from nearby parking meters, a gross underestimate of its actual costs.[24]

How Other Cities Do It

Reviewing practices in a number of Toronto's comparator cities, it is clear that the permitting process for lane closures is always a balancing act between pricing and planning. Within this rubric, Toronto is unique in its combination of mid-level permit pricing and low restrictions or planning requirements. While this permissive environment has helped to enable the region's construction boom, it has done so with a cost to our collective mobility – with every road closure disproportionately impacting an already overwhelmed grid.

Figure 1.2: Lane Closure Fees and Permit Requirements Across Jurisdictions[25]



The result is a middling approach in which neither restrictions nor prices cause permit applicants in Toronto to consider alternatives; lane closures appear to be an acceptable cost for their business. A deeper dive into best practices unearths the wide variety of strategies and tactics used by Toronto's comparator cities.

DYNAMIC PRICING

In London and Sydney, major arteries and bottlenecks are priced at the highest rate if closing them would result in significant traffic congestion, even for roads outside the Central Business District.

INCENTIVIZING OFF-PEAK CONSTRUCTION

In London, fees are reduced by 50% or more — and sometimes waived entirely — if closures occur during off-peak periods.

OVERNIGHT WORK

New York does not permit daytime construction in high-traffic areas, making overnight work the norm.

STRINGENT PLANNING

Sydney's permit requirements increased based upon the projected impact of the closure, encouraging contractors to plan their work more thoroughly.

PROJECT DELIVERY

Chicago's daily fees increase for lane closures that last for more than three days, while Sydney and Singapore charge fees in hourly and four-hour increments, respectively — all to ensure that work is completed on time.

PROJECT COORDINATION

Chicago works directly with contractors to ensure that different projects do not work on the same block less than six months apart. New York charges higher prices for work on any street that was resurfaced in the last five years.

Many cities balance lower upfront permit costs with greater restrictions and differential fees, offering inexpensive lane closures in exchange for more comprehensive upfront planning and higher costs for any permit extensions.

WHY DOES ROAD CONSTRUCTION WORK IN NYC TYPICALLY HAPPEN AT NIGHT?

"Traffic volumes during the day make it difficult to close some roadways without a major impact on the community. NYC DOT [Department of Transportation] tries to do emergency work during the day and routine maintenance at night. Crews can work faster at night—in most cases, night work is completed two to three times faster than the same work done during the day. This results in significant cost savings and increased productivity."[26]

NYC Department of Transportation Street and Roadway Construction FAQs

CALLS TO ACTION

Two Recommendations to Limit Lane Closures on Toronto's Roads

1. PRICE LANE CLOSURES TO INCENTIVIZE FASTER, BETTER CONSTRUCTION

Given the substantial costs of lane closures, as detailed by Steer's research, Toronto needs a new, standardized methodology that integrates the wider impacts of lane closures into its permitting and pricing.

The costs of closures should be considered against the social value unlocked by a project. In situations where there are high social impacts, decision-makers can evaluate multiple options: whether to allow a closure, encourage other approaches to construction, or deploy higher fees to encourage shorter closures to mitigate impacts.

To be clear, the price of a closure permit should not be based upon its full socio-economic costs, but a consideration of those costs must be embedded into the decision-making process.

Outcome-based pricing is not about raising the level of all road closure fees, but about tailoring them so that the most impactful closures are subject to the greatest requirements.

VARIABLE FEE	DESIRED OUTCOME
Changing the permit fee structure from monthly to daily or hourly	Quicker completion to save contractors money
Increasing fees over time, such as higher fees for each successive week	Better planning to avoid construction delays
Incremental fees for lane closures on minor arterials, major arterials, and expressways	Better planning and staffing for construction projects that cause greater traffic disruptions
Rebates for projects completed on time or ahead of schedule	Incentivize project acceleration
During peak travel periods, increase fees for lane closures and/or offer rebates for reopening lanes	Promote the practice of staggered lane closures

The city's current lane closure policy primarily considers a project's location, size, and proximity to construction hubs before approving the request, and prices its permit based upon lost parking meter revenue. Prices don't change based upon the time of day, how long the closures last, or their impact upon wider traffic circulation. By taking these factors into account, and reflecting their importance through variable pricing, the city can incentivize better outcomes.

Moving to an outcome-based model would represent a significant shift in current business practices for both developers and the city. In the short-term, this shift may create uncertainty in construction costs and timelines for developers and increase city staff time needed to review permit applications. Even so, this would be an appropriate and intentional shift of the costs of lane closures away from commuters and onto the public and private sector actors tasked with managing construction.

The city announced in September 2024 that it will be developing a 'digital twin' traffic simulation model that uses live traffic data and artificial intelligence to more accurately predict traffic outcomes from road closures. This investment mirrors similar initiatives in other cities. The true value of digital twinning will be in how it improves the city's traffic management practices, including the integration of the data and projections it generates into the permitting and pricing process.

2. MAKE OFF-PEAK CONSTRUCTION ON MAJOR ARTERIALS THE NORM

Cities such as Singapore, New York, and London use pricing and restrictions to shift road closures to low-demand times. London saw a 30% increase in overnight utility work and improved public perception by reducing inactive closures. In New York overnight work is the norm, as crews unimpeded by surrounding traffic complete their work two to three times faster than in the daytime. In all these cities, the management principle at work is simple: every effort must be made to keep lanes open and streets clear for vehicles at peak travel times.

In Toronto, officials can encourage off-peak construction by restricting closures on specific categories of roadways such as major arterials during peak travel times, and by providing discounts on permit prices for work conducted overnight or on Sundays and holidays.

In New York overnight work is the norm, as crews unimpeded by surrounding traffic complete their work two to three times faster than in the daytime.

Where possible, allowing up to 24/7 construction would substantially shorten the completion timelines for all projects that adopt it. Provincial and municipal officials can take immediate steps to shift more construction work to overnight hours by establishing a framework for practice that:

- Defines the types of projects that can engage in overnight construction,
- Establishes minimum distances from residential buildings for overnight work,
- Requires the adoption of noise-dampening technologies, and
- Provides steep permit rebates and discounts for work performed overnight, allowing construction firms to offset the additional costs of overnight work.

In addition to shortening construction timelines, such measures also reduce the socioeconomic costs of lane closures. It's estimated that the shift to 24/7 construction on portions of the Gardiner Expressway, in addition to accelerating the project timeline by a full year, created $273M in benefits, by creating travel time savings for drivers and goods movement.[27] The shift also increased the project's cost, but the City and Province recognized that the costs of the closure were becoming both obvious and unbearable. This change of mindset, which factors the cost of closures into decision-making, should be applied to all closures with substantive impacts on mobility going forward.

RECOMMENDATIONS FROM THE CONSTRUCTION INDUSTRY[28]

In letters to the City's Infrastructure and Environment Committee last September, a number of industry associations — the Toronto and Area Road Builders Association, the Greater Toronto Sewer and Watermain Contractors Association, the Heavy Construction Association of Toronto, and the Residential and Civic Construction Alliance of Ontario — made several shared recommendations to the City. The Board supports their proposals on:

Incentivizing project acceleration: While contractors face significant financial penalties for project delays, they rarely receive incentives for finishing early or minimizing traffic disruption. Adding financial incentives to encourage practices like clearing lane closures (e.g., reopening the lanes) on evenings and weekends could significantly ease congestion. Some municipalities include a contingency fund in projects, allowing managers to approve acceleration or adjustments that optimize traffic flow without waiting for lengthy approvals.

Tendering and awarding projects earlier: It is common practice for the City to tender contracts in the spring and summer for construction work that must be completed before the end of the year. Tendering them sooner would give construction firms more time to plan and staff their projects.

Empower the city's project managers: When projects encounter unexpected hurdles such as unmarked underground utilities, the ensuing change order is often forwarded to procurement staff, legal affairs, or even City Council for approval, leaving projects to sit idle as they await a decision. City project managers should be given more leeway to approve change orders up to 5% of contract value, up to a maximum of $150,000.

ACTION 2

Enforce the Rules of the Road

Don't speed, don't double park, don't run the red, don't block the intersection. These elementary rules of the road are known to all, yet in Toronto they are broken routinely and contribute substantially to gridlock. According to a recent survey by the Canadian Automobile Association (CAA) of South Central Ontario, 55% of Ontario drivers admit to engaging in risky and unsafe driving behaviour.[29]

To get city streets moving again, the City needs more efficient and effective enforcement, both positive (encouraging compliance through rewards or incentives) and negative (fines, infractions, and other penalties). Traditionally, enforcement has relied heavily on active surveillance by staff dedicated to the task. Today, however, the problem is too widespread; enforcement officers and traffic agents cannot be everywhere all at once.

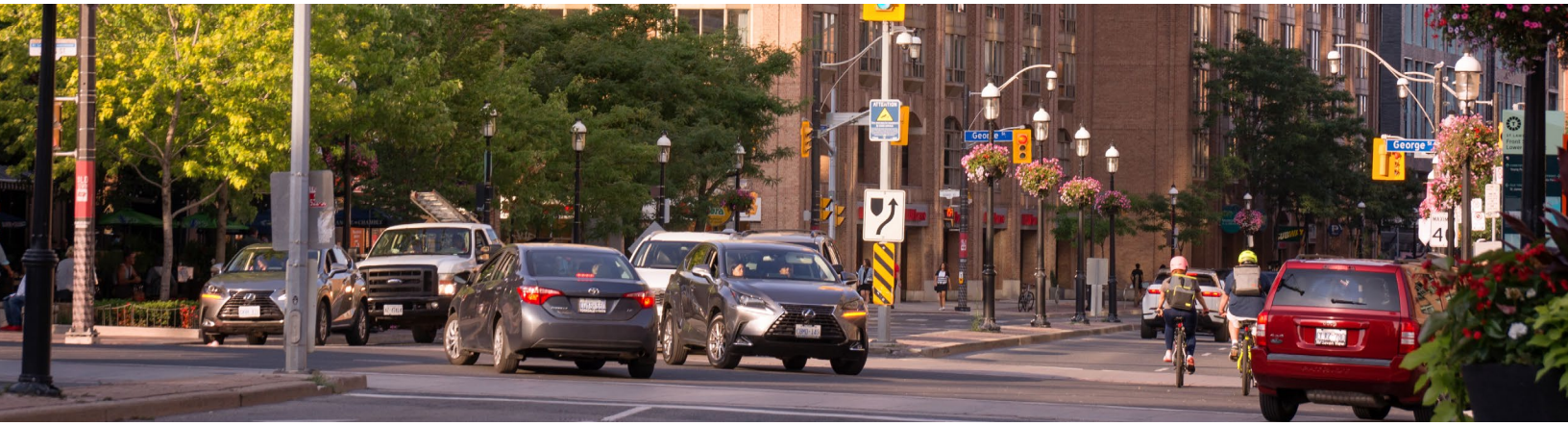
Alongside a concerted effort to improve road user education, the solution lies in the adoption of new technologies that can assist with enforcement. Toronto currently has some automated enforcement pilots underway but it's time to get behind these solutions in earnest, including through enabling provincial legislation.

Toronto's Enforcement Challenges

Key opportunities for improving traffic flow include addressing blocked intersections and tackling stopping or standing violations through enhanced enforcement or incentives.

Intersections

Blocked intersections have been a highly publicized problem for years, one that persists despite numerous efforts to educate motorists and step up enforcement with the deployment of traffic agents. Blocking the box is a major contributor to congestion for vehicles of all kinds, a safety issue, and a contributor to



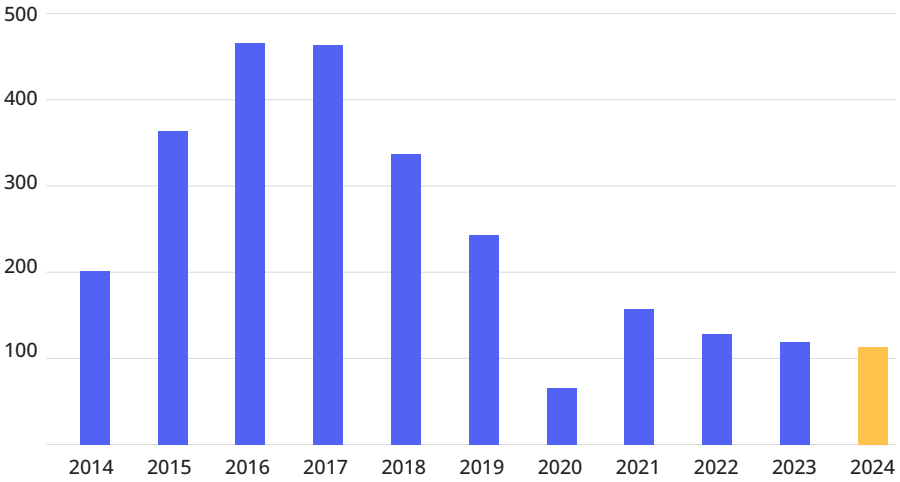
the unreliability of public transit. **In 2023, blocked intersections were the primary contributor to transit delays on King Street, where 16-minute streetcar trips during off-peak periods can extend to an hour or more during rush hour.**[30]

At many intersections, the technology required to enable automated enforcement is already in place: red light cameras. Installed as part of the Vision Zero Road Safety Plan, a total of 296 intersections now feature the technology,[31] which captures an image of a vehicle when it enters the intersection during the red light phase.

Notably, however, red light cameras do not issue tickets for blocking the box because, among other reasons, the vehicles in question enter the intersection when the light is green. Their specific infraction — failing to clear the intersection in time — cannot be enforced by camera under the *Highway Traffic Act*. That leaves the task to the Toronto Police Service, for whom it is time-consuming and resource intensive. Police have found that box-blocking enforcement further contributes to congestion, since they must partially occupy a traffic lane to pull motorists over and issue the infraction.[32] Tickets for blocking the box peaked in 2016 and 2017 at over 400 per year;[33] in 2022 and 2023 that number was down to just over 100 per year, as shown in Figure 2.1.

In September 2024 the city announced an increase in fines for blocking the box from $90 to $450. Without effective enforcement, the steeper fines will likely amount to an ineffective form of deterrence. In contrast, since July 2020, the cameras have issued more than 67,000 red light infractions, providing a much more effective deterrent to running the red.

Figure 2.1. Tickets for Blocking the Box[34]



Toronto police charges under bylaw 950-901(b) – Blockage of Signalized Intersection. 2024 data through Aug 13. (Source: Toronto Police Service)

Legislative amendments to the Ontario's Highway Traffic Act or the City of Toronto Act are needed now to enable automated enforcement.

Figure 2.2. Map of Rush Hour Stopping and Standing Hotspots in Downtown Toronto[35]

Rush hour no stopping and standing tickets issued between 2019 and 2023. (Source: City of Toronto Open Data)

Stopping and Standing Violations

Stopping and standing violations occur when vehicles stop or park in lanes dedicated to bikes, transit vehicles, and thoroughfare mobility, as well as in curbside bus stops and other no-stopping zones. These violations create bottlenecks, forcing two lanes of traffic to merge into one, significantly reducing road capacity.

While the problem is widespread, analysis based on parking ticket data from 2019 to 2023 identifies the hotspot locations for rush hour stopping and standing violations in downtown Toronto, (see Figure 2.2), specifically:

- Queen St. W between Bathurst St./Spadina Ave./Beverley St.
- King St. W between Shaw St. and Bathurst St.
- College St.-Carlton St. between Bay St. and Yonge St.
- Queen St. E west of Jarvis St.
- Avenue Rd. between Bloor St. and Davenport Rd.

In 2024, fines increased for stopping and standing violations in thoroughfares and bus stops ($150 to $190), bike lanes ($150 to $200), pedestrian walkways and intersections ($60 to $200), and more.[36] But as with blocking-the-box, in the absence of stronger and more efficient enforcement, increased fines are likely to prove an ineffective deterrent.

In 2024, fines increased for stopping and standing violations:

Thoroughfares and bus stops
$150 to $190

Bike lanes
$150 to $200

Pedestrian walkways and intersections
$60 to $200

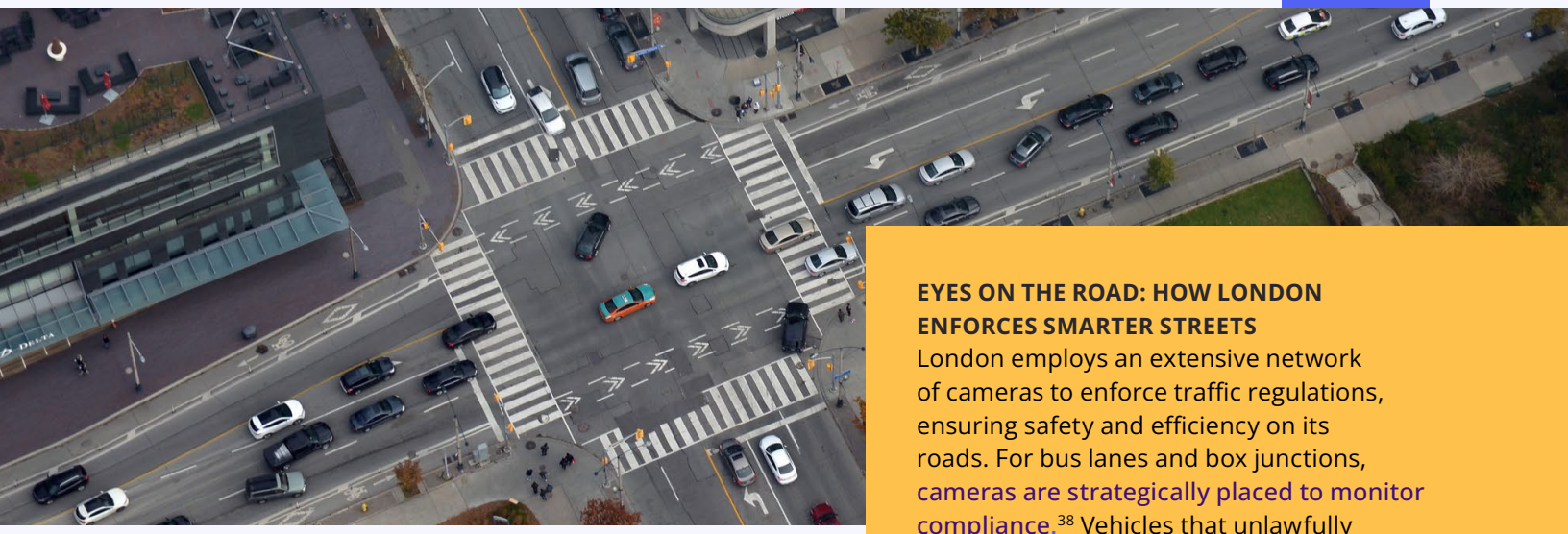
POSITIVE ENFORCEMENT FOR ON-STREET PARKING

Parking is a key component of overall mobility and a critical support for street-level businesses and their customers. The Toronto Parking Authority (TPA), North America's largest publicly owned commercial parking operator, manages over 60,000 stalls of parking, both on-street and in parking lots off-street, in addition to its Bike Share and EV charger network.

Unfortunately, TPA is also the target of non-compliance with payment requirements – preliminary data has shown that only approximately 40% of drivers pay for their parking.[37] In August 2024, the fine for failing to pay for parking increased from $30 to $75, but despite the increase in penalty, more than half of all parking users continue to take their chances.

An inability to find parking leads to what traffic experts call "cruising," as motorists circle nearby blocks in search of a parking space. While it's not an example of rule-breaking, cruising is a known contributor to congestion, as vehicles actively seeking to move out of traffic lanes become trapped in them. Part of the problem is that they don't know where to look. Data compiled by TPA shows that parking spaces are often available in nearby off-street lots. This makes parking an arena where positive enforcement can make a strong contribution to congestion mitigation. The TPA's Green P app already allows users to pay remotely for their parking space, extend their time, and receive notifications about expiring time through their smartphones. It also includes real-time availability at some on-street and off-street locations – a feature that will ultimately be rolled out across the entire parking portfolio.

In the long term, the Green P app could be used for wayfinding. Users would be able to enter their destination into the app, which would then direct them to an available parking space, prioritizing off-street over on-street parking. This kind of functionality has the potential to significantly reduce cruising and keep curbside lanes as clear as possible, allowing people to move with choice, ease and speed. In concert with changes being made to the price of parking – i.e. ensuring off-street parking is typically priced lower than on-street and at different intervals – these move towards more demand-based approaches which are an example of recognizing the value of limited curbside space.



CALLS TO ACTION

Two Recommendations to Restore Order to Toronto's Streets

1. BROADEN THE USE OF ENFORCEMENT TECHNOLOGIES AT INTERSECTIONS

In its most recent update to the Congestion Management Plan, the City announced plans to expand its use of traffic agents at key intersections, who educate drivers about potential infractions and encourage better road use. Their presence should be complemented by additional enforcement measures to make deterrence more effective.

As noted earlier, red light cameras have the capability to issue block-the-box infractions at the intersections where they are located; what's needed is an amendment to Ontario's *Highway Traffic Act* so that box-blocking infractions can be issued to vehicle owners rather than their drivers. This is currently the case with many similar violations: tickets for illegally parked cars and trucks, for instance, are issued to the vehicle, not the driver. Toronto and Queen's Park can and should move swiftly to enact this change.

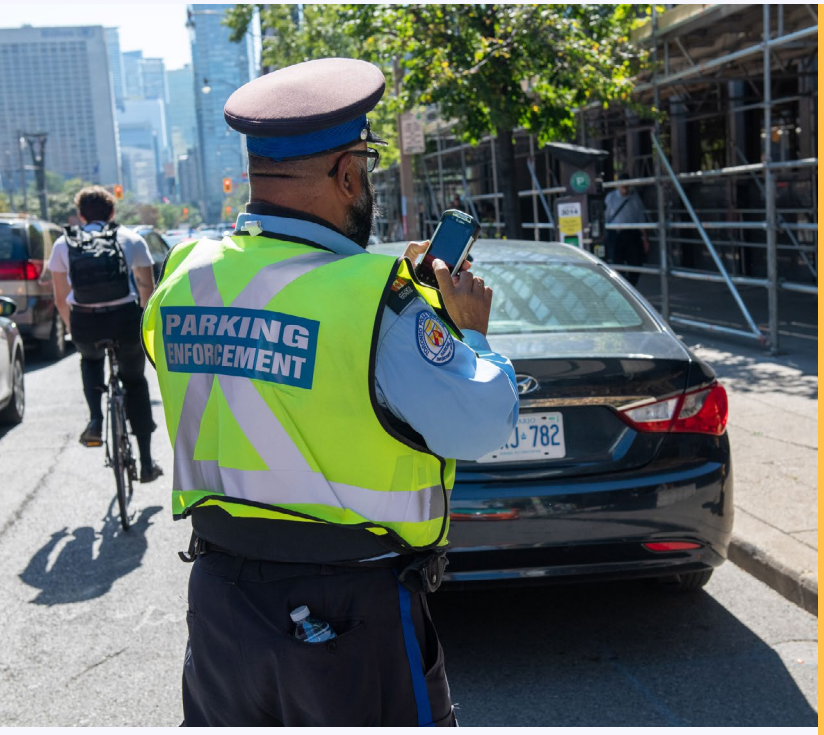
Additionally, ensuring that enforcement technologies like red-light cameras and automated systems incorporate a "privacy by design" approach is critical to maintaining public trust and meeting regulatory requirements. By proactively addressing privacy concerns, the City can bolster public confidence in these systems while ensuring compliance with provincial and federal regulations. Accompanying public awareness campaigns are essential to encourage better driving habits and fostering public trust — a task the City's traffic agents can ably assist with.

EYES ON THE ROAD: HOW LONDON ENFORCES SMARTER STREETS

London employs an extensive network of cameras to enforce traffic regulations, ensuring safety and efficiency on its roads. For bus lanes and box junctions, cameras are strategically placed to monitor compliance.[38] Vehicles that unlawfully enter these areas face fines, as the system prioritizes keeping bus corridors and key junctions clear for smooth traffic flow. Speed enforcement is managed through fixed and mobile speed cameras.[39] Fixed cameras are installed at specific locations prone to speeding, while mobile cameras, mounted on vehicles or tripods, can be relocated to address problem areas dynamically. Red light cameras are another critical tool, positioned at intersections to penalize drivers who run red lights, reducing the risk of collisions.[40] In low traffic neighborhoods (LTNs), restrictions are in place to minimize through traffic either through physical infrastructure or in addition to Automatic Number Plate Recognition (ANPR) cameras, that monitor and identify vehicles that violate access rules and commit other infractions.[41]

An independent 4-year review of over 4,000 safety cameras in London found:[42]

- A reduction of cars speeding around fixed cameras reduced by 70% (18% around mobile cameras)
- The number of people seriously injured and killed around fixed cameras reduced by 50%, 32% for children, 29% for pedestrians
- A 22% reduction in collisions involving injuries



2. EXPAND ENFORCEMENT TACTICS ON MAJOR ARTERIALS

Major arterial roads are the routes whose stated purpose is to accommodate more vehicular traffic and to provide more fluid traffic flow. Stopping and standing violations on major arterials constrict their capaity and impede flow. Increasing the presence of traffic agents and police, as well as special constables and bylaw officers (who are empowered to issue infractions for many curbside parking violations) would help deter this activity.

The City and Province should also begin discussions on the use of camera and license plate recognition technology to issue stopping and standing infractions, such as double-parking, stopping in bike lanes and bus stops, and other such instances. These uses would require enabling policy collaboration from the city and Province, and we encourage both to begin discussions promptly. Furthermore, exploring collaborative procurement across municipalities should streamline the adoption of enforcement technologies and reduce costs. Pooling resources can speed up implementation while ensuring consistency across jurisdictions.

AUTOMATED ENFORCEMENT THAT MOVES, OR DOESN'T MOVE, WITH TRAFFIC

In New York City, buses on 10 routes have been equipped with cameras to capture license plate images of vehicles that block bus stops and transit lanes.[43] When they first became operational in September 2024, the system issued warnings to violators for the first 60 days. They now issue infractions ranging from $50 for a first offense to $250 for repeat offenders.

These same technologies can also assist with legal on-street parking compliance. In many instances, the process of issuing an infraction entails a series of manual steps including dashboard verification of payment, expiry time verification, license plate data entry and printing. Each of these steps can be either automated or eliminated through technology, substantially improving the efficiency of enforcement efforts.

SMART TRANSPORTATION AND THE CONNECTED GRID

In addition to automated enforcement, a multitude of smart transportation solutions utilizing internet of things, artificial intelligence, data communication, and sensor technologies are available today. An iterative approach to procurement and deployment, and proactive engagement with impacted stakeholders, will allow our region to build consensus and move forward:

Smart intersections
Traffic safety / near miss detection
Adaptive light signaling / transit priority
Emergency vehicle preemption

License Plate Reader
Speed / parking / 'blocking-the-box'

Mid-Corridor
Cameras & Sensors
Using streetlights & rooftops
Visibility to roads & highways

Road quality control
AI-powered vehicles and sensors to monitor road conditions

ACTION 3

Unclog the Arteries

City streets have changed. Over the last two decades — and especially since 2014, when the concept of "complete streets" became part of the City of Toronto's Official Plan — the city has redesigned its urban landscapes to welcome a better balance of uses, with more compact intersections, wider sidewalks, trees, outdoor patios, bicycle lanes, lowered speed limits, pedestrian scrambles, and other changes to signal timing. Toronto's streetscapes, and street life, are better for it.

Vehicular travel, however, is not. These changes were accomplished by reallocating road space away from vehicles, and the trade-offs have become a contributor to road congestion and unreliable transit. The problem lies not with the concept of complete streets, but with its implementation. Toronto's 5,600 kilometres of roads are more than enough to make every neighbourhood into a great destination *and* to make them all easily accessible by *all* modes of travel. For downtown, the solution lies in rebalancing the scales on its major arterial roads.

Toronto's 5,600 kilometres of roads are more than enough to make every neighbourhood into a great destination and to make them all easily accessible by all modes of travel.

Where the Scales Have Tipped

What are Major Arterials?

As outlined in the City of Toronto's updated 2018 Road Classification System, major arterials share the following characteristics:[44]

Traffic movement is a primary consideration.

They are subject to **property access controls.**

They move more than **20,000 vehicles per day.**

They include a **minimum number of four peak period lanes** (excluding bicycle lanes).

The **flow of the road is uninterrupted** except at signals and crosswalks.

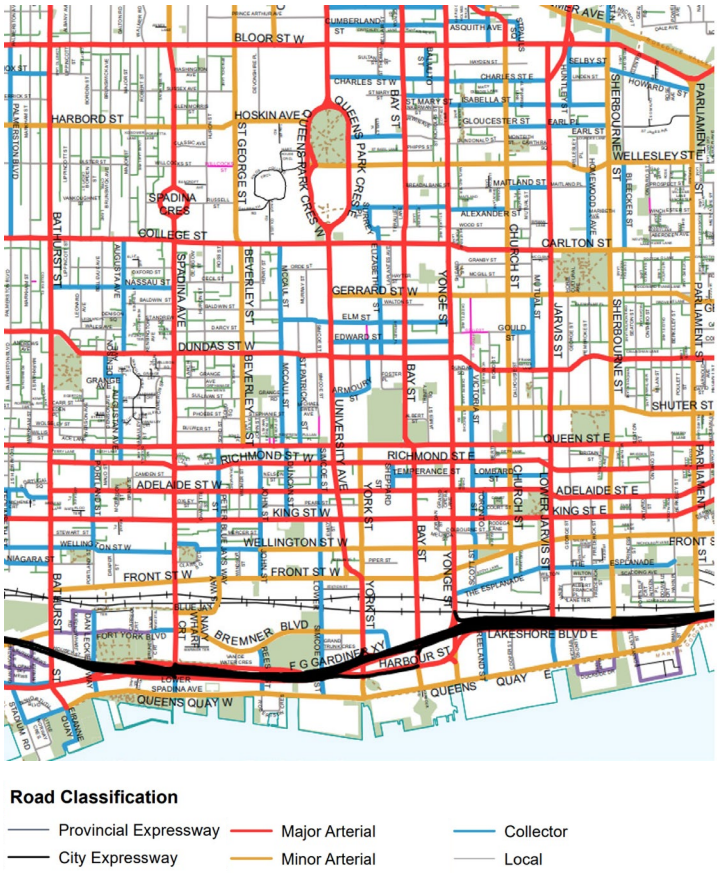
They move more than **5,000 transit passengers per day.**

Their speed limits range from **50 to 60 km/hr.**

Wide curb lanes or special facilities for cyclists are desirable.

They have **sidewalks on both sides** of the road.

Figure 3.1. Map of Downtown Toronto by Road Classification



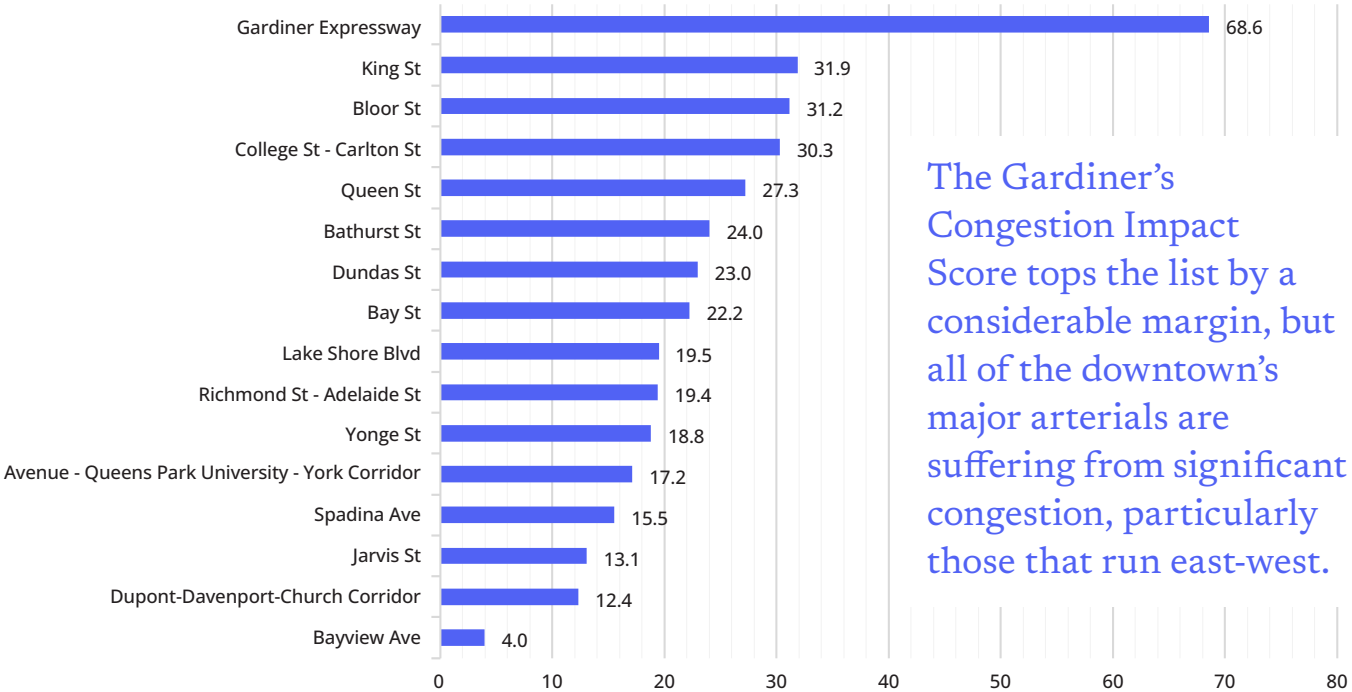
These downtown roads, along with the Gardiner Expressway, are among the most congested in the city, with impacts that ripple across the entire transportation network. **In this report, we introduce the Congestion Impact Score: a new weighted impact methodology to combine the severity (using the Time Travel Index), extent (the length of the congestion), and duration of congestion, along with each road's importance to the city's road network as a whole, to give each major arterial a Congestion Impact Score out of 100.**

As Figure 3.2 shows, the Gardiner's Congestion Impact Score tops the list by a considerable margin, but all of the downtown's major arterials are suffering from significant congestion, particularly those that run east-west.

The root causes of congestion vary for each arterial, because each is unique. Some, but not all, are streetcar routes; some are home to more street-level shops than others; some serve business district high-rises; some serve government and postsecondary institutions. What they share is their inability to efficiently circulate vehicular traffic.

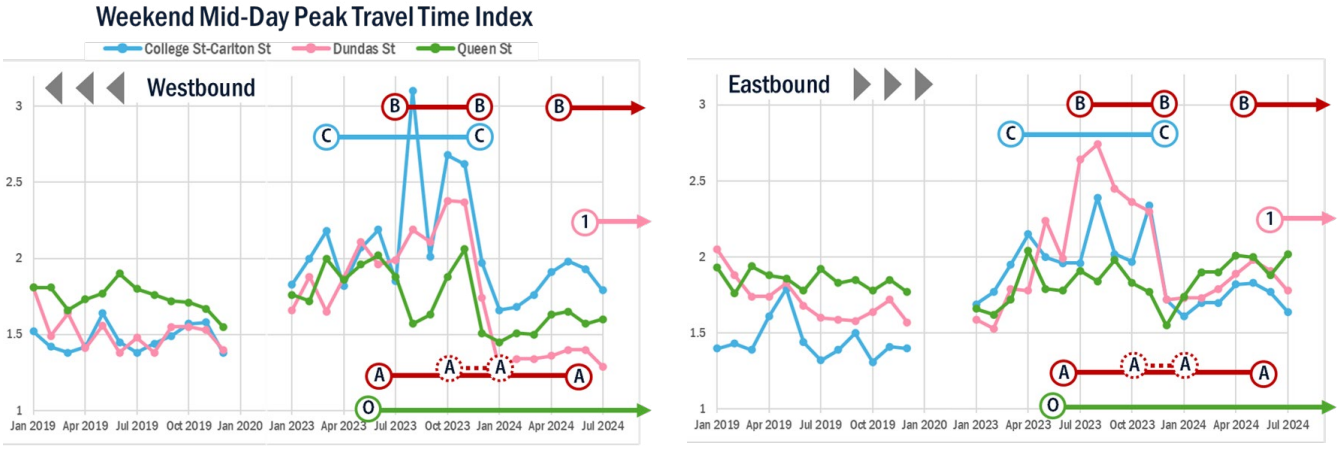
When major arterials get clogged, neighbourhoods feel the impact as vehicles turn onto collectors and local roads in search of alternative routes. A closer look at two different routes provides a clearer picture of how the congestion is caused, and hint at how it can be undone.

Figure 3.2. Congestion Impact Score



Source: Parsons. Based on HERE travel time analysis and other sources, Jan. 2023 to July 2024.

Figure 3.3. Streetcar Corridor Travel Time Trends



SIGNIFICANT EVENTS

- **O** Ontario Line Contruction
  Queen St. full closure begin (May 1, 2023)
- **C** College St. Infrastructure Improvement
  Manning - Bay
  TTC Track (Sept 16, 2022 - Jan 2023)
  Cycle Tracks (Mar 2023 - Dec 2023)
- **A** Adelaide St. Contruction
  Bathust - Victoria one travel lane only
  (Jun 2023 - Summer 2024)
- **A** Adelaide St. Contruction
  York - Victoria rolling full closure
  (Oct 2, 2023 - Dec 15, 2023)
- **B** Bloor St. Infrastucture Improvement
  Spadina - Avenue
  Phase 1-3 - shared vehicle and cycle lane (Jul 17 - Dec 15, 2023)
  Phase 4 EB traffic only (Apr 22 - Aug 24, 2024)
  Phase 5 full street closure (Jul 8 - Jul 22, 2024)
- **1** Dundas St. W
  Temporary No Stopping Zone
  Spadina - McCaul (Jun 2024 - Jan 2025)

Case Study 1: Streetcar Corridors

The College-Carlton, Queen, and Dundas streetcar routes are crucial public transit corridors within the downtown core, moving more than 30,000 vehicles and 100,000 transit riders daily. Public transit suffers disproportionately from arterial congestion on these routes as it disrupts their timing, spacing, travel times, and reliability, especially in current circumstances.

Construction of the Ontario Line, which has closed Queen Street to traffic from University to Victoria, has diverted significant volumes of traffic onto the Dundas and College-Carlton arterials, as well as to collectors and local roads.

On-street parking occupies an entire lane on all these corridors, each of whose right-of-way measures a mere 20 metres across. Parallel parking maneuvers often result in delays or conflicts for streetcars, which cannot skirt around them.

Signal timing constraints at key intersections limit the ability to improve traffic flow. Streetcar boarding and alighting take significant amounts of time, as do crossings for heavy pedestrian traffic.

Travel times eastbound between the weekend peak travel time of 1:00 to 6:00 pm have increased for all three routes since the pandemic, while College-Carlton westbound also remains high (see Figure 3.3).

Bloor's landscape and signalization have been reconfigured by Complete Streets and Vision Zero safety initiatives, reallocating both space and time away from vehicular traffic and towards active transportation – walking and cycling.

Case Study 2: Bloor Street West

Bloor Street experiences some of the most intense, extensive, and prolonged congestion among the city's major arterials, making it a key corridor for congestion management. Bloor's landscape and signalization have been reconfigured by Complete Streets and Vision Zero safety initiatives, reallocating both space and time away from vehicular traffic and towards active transportation – walking and cycling. The reduction in vehicle rights-of-way on Bloor has been compounded by construction, which has further disrupted vehicle flow through increasingly limited space.

Data from the City of Toronto's Open Data Portal shows that, from 2018 to 2023, winter vehicle volumes at Bloor and Bedford decreased by 21%, and summer volumes at Bloor and Yonge by 38%. In some measure, these reductions are the intended result of Bloor's Complete Streets/Vision Zero reconfiguration. Yet it is unclear what percentage of this vehicle volume has shifted to a different mode of transportation, diverted to a nearby corridor like Davenport Rd and Wellesley, or skipped the trip altogether, making it difficult to get a full picture.

What is clear is that amid Bloor Street's transformation, its status as a major arterial — whose primary function is to move traffic — has been significantly hampered for vehicles.

An Interconnected Problem

While there is no direct cause-and-effect relationship between these two case studies, they are nevertheless connected by common sense, forming a kind of vicious circle.

- The vehicles that would once have been carried by Bloor Street now divert to other routes, including to the transit corridors, where they contribute to streetcar delays.
- The streetcar delays reduce transit reliability, hampering ridership and resulting in more cars on the road.
- This increases reliance upon the Gardiner Expressway, whose volumes and travel times are on the rise.
- The Gardiner's increased volumes spill out into the major arterials that criss-cross the downtown and, given these routes' congestion as well, into neighbourhood streets.

Beyond the Gardiner-Lake Shore corridor, there is arguably no major arterial in the city that prioritizes the movement of vehicles. Without such corridors, vehicle gridlock will persist, with impacts on travel times for motorists and transit riders alike.

CALLS TO ACTION

Two Recommendations to Improve Circulation on Toronto's Major Arterials

1. ESTABLISH EAST-WEST PRIORITY CONNECTOR ROADS FOR VEHICULAR TRAFFIC

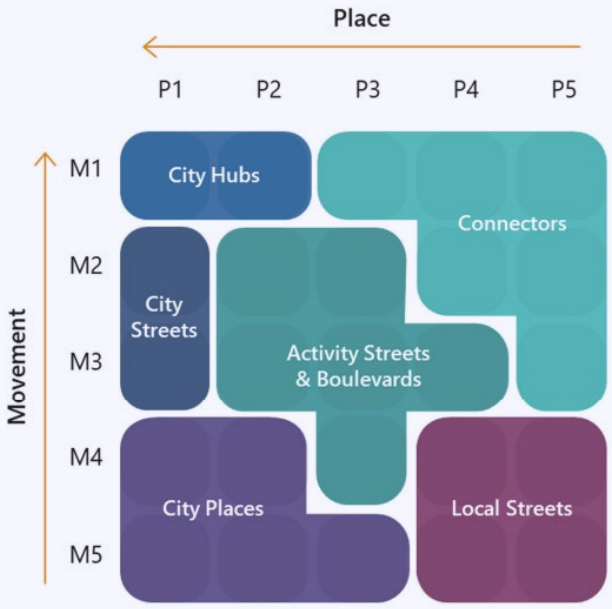
Each of the 16 major arterials in downtown Toronto is unique in character, but their stated primary purpose is the same: to prioritize vehicular traffic flow, allowing other roads to accommodate more active transportation activities and placemaking reconfigurations. The ability of Toronto's major arterials to keep traffic circulating for the rest of the city has eroded steadily in recent years. Even downtown, where transit, cycling, and walking are all options for residents, deliveries of goods, ride-hailing, and service vehicles will always be needed.

Not all major arterials need to expedite circulation in the same way. Each one can prioritize a different combination of private vehicles, public transit, and active transportation, all while considering their location, existing features, intersection configurations, public destinations, and other factors. The objective is to optimize the downtown road network so that all modes of travel can circulate effectively.

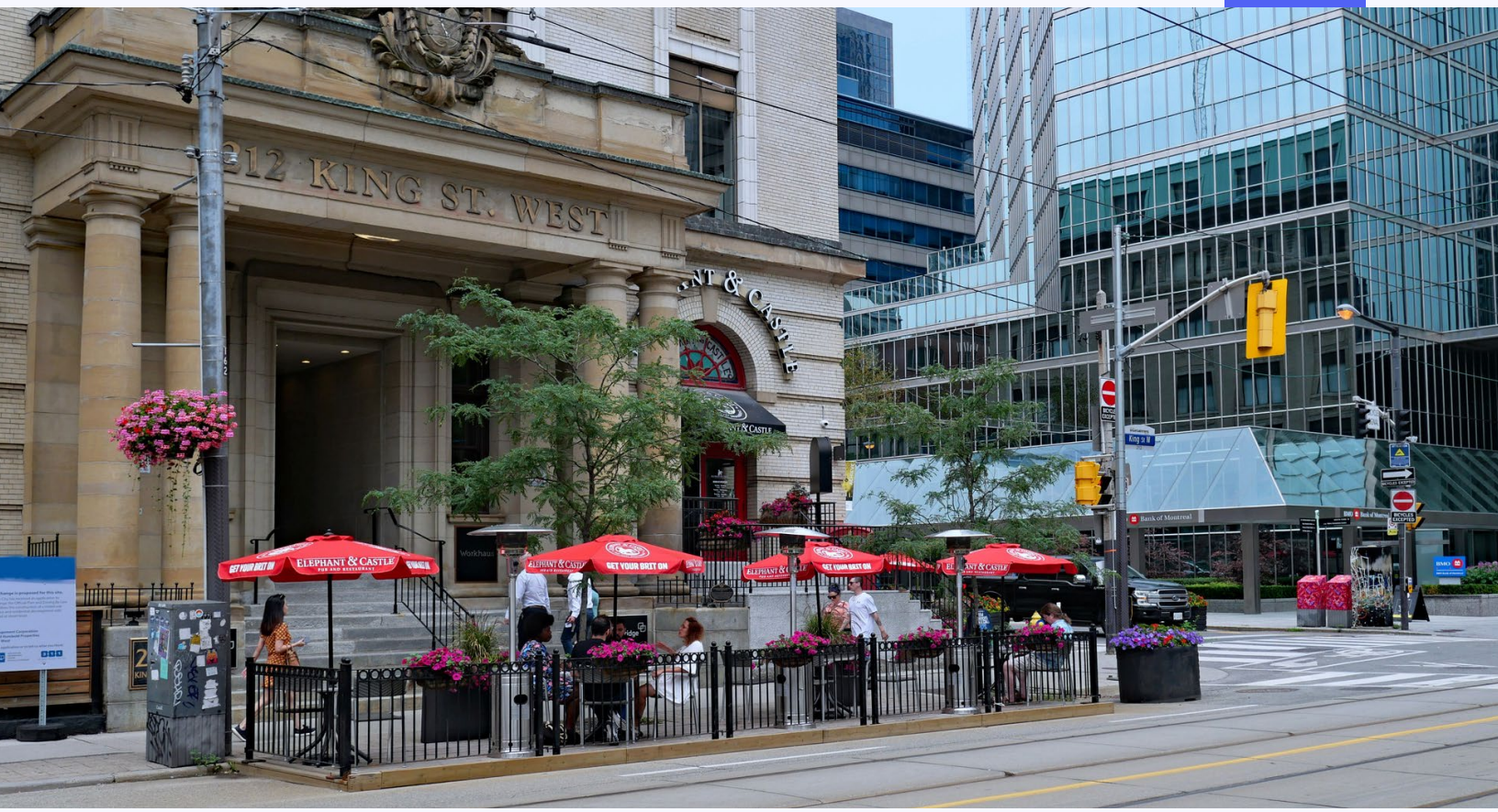
Movement matters for all modes – and as Parsons' analysis shows, it can be measured. Major arterial roads should have clearly defined, annually-published KPIs defined by the city and/or the Province, be they in terms of travel time, volumes, or throughput. This report offers some inspiration in this regard: officials could publish the Congestion Impact Scores of major arterials in Toronto, and even across the GTHA, on an annual basis.

The City of Toronto can review its major arterials and assign specific circulation priorities to each. The city can also adopt a rubric similar to Australia's Movement and Place Framework (Figure 3.5), which categorizes streets based on their purpose, whether as movement corridors, places for pedestrian activity and local business, or a combination of uses. On critical movement corridors, Australia's framework discourages clustering multiple uses that lead to bottlenecks, which avoids overloading a single road with competing demands.

Figure 3.5. Australia's Movement and Place Framework



Source: VAGO, based on the Department of Transport's 2019 *Movement and Place in Victoria.*



Above all, the designated connector roads need to be actively managed as a network, with a clear understanding of which connectors will absorb additional traffic when another is disrupted. For instance, with the multi-year closures and restrictions on both the Gardiner and Queen St., what are the designated alternate routes for drivers, workers, and delivery vehicles needing to travel east-west throughout the downtown or the city? And what changes are being made, such as signal timing adjustments or the temporary removal of on-street parking, to ensure they can absorb the additional traffic?

Similarly, in the event that the TTC's Bloor-Danforth line shuts down, can Bloor St. handle the sudden flow of shuttle buses? The Bloor-Danforth line is currently the only east-west rapid transit line in the city.

In 2024, the Bloor-Danforth Line experienced numerous closures, including in May due to hydraulic oil on the tracks, in September for an oil spill from track lubricant as well as planned track work, and in October for various maintenance activities, such as rail switch replacements and track upgrades. Service disruptions call for active management beyond simply sending buses on to the road.

2. REBALANCE THE COMPLETE STREETS OBJECTIVES FOR PRIORITY CONNECTOR ROADS

To rebalance the priorities of street use, the City of Toronto needs to review the way Complete Streets initiatives are implemented on major arterials. The city's current Complete Streets Guidelines for Roadways do not differentiate among any of the city's five different street types, and make no mention of vehicle circulation or mobility as principles or priorities of any kind on city streets. Vehicle circulation, including public transit and private vehicles, is a key component of overall mobility in the city, and Complete Streets guidelines should reflect that.

The city's approach to balancing all needs on a single street often resembles a prisoner's dilemma, in which competing incentives lead to sub-optimal outcomes. Each mode of transportation (walking, cycling, driving, and transit) advocates for its own priorities, fearing that giving ground will mean losing out entirely. This results in a street that serves no one optimally, spreading resources thinly across competing demands. Without strategic prioritization, streets become congested, in some cases unsafe, and inefficient for all users.

There is a need for a coherent all-of-city approach to arterial roads, rather than a localized neighbourhood approach. In order to optimize dedicated connector roads, secondary uses may have to be moved – either temporarily or permanently.

Move bike lanes off dedicated connector roads

Toronto must protect its ability to efficiently move people, goods, and services—including road-based transit and emergency vehicles—across the city's road network. Simply put, there is room in our city for both safe cycling infrastructure and road infrastructure that prioritizes vehicular movement, maintains reasonable travel times, and minimizes congestion bottlenecks. However, connector roads must remain focused on vehicular traffic, while the cycling network should be concentrated on secondary roads.

New provincial legislation now requires municipalities to seek approval for bike lanes that reduce lanes of traffic and the Province has announced its intent to exercise these powers to review bike lane placement on major connector roads. To effectively manage congestion, the new provincial process should incorporate clear performance metrics—such as travel time reliability, person throughput, and mode-specific delay indicators—and work in coordination with municipal governments to apply these to dedicated connector roads.

Move parking off-street

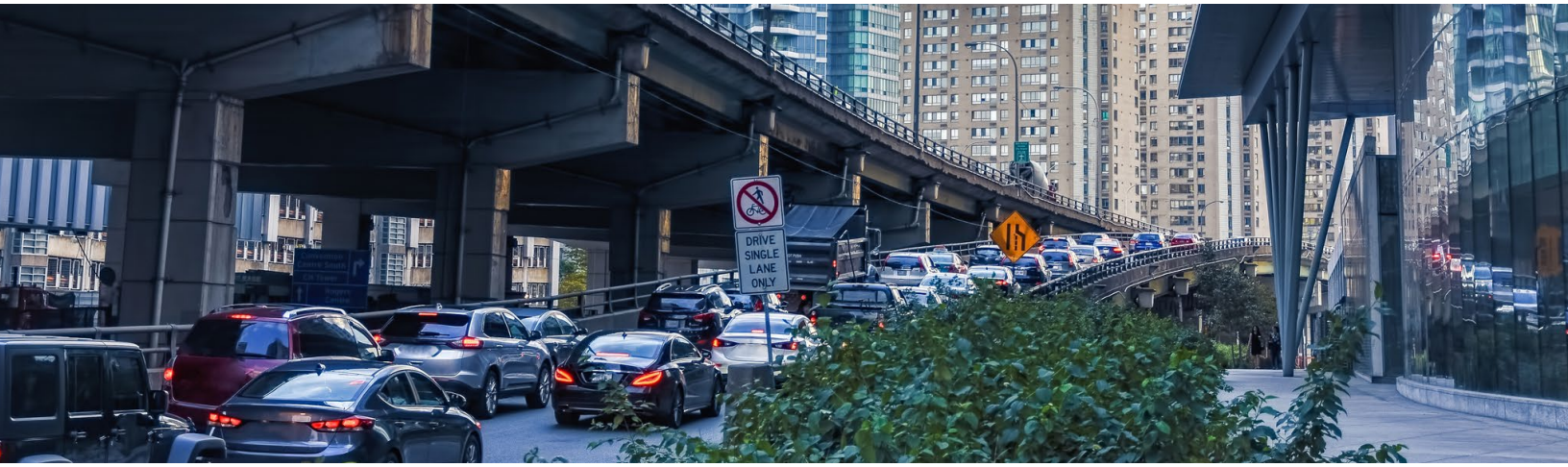
According to the TPA, many of its off-street parking lots, most a short walk from nearby shops and businesses, are currently underutilized. This presents an opportunity to remove on-street parking on some major arterial routes that are well-served by nearby TPA and private off-street lots, whether during peak periods or all hours of the day. Dynamic pricing, which the TPA is also looking to introduce, must also be implemented for all parking.

Limit curb lane cafés

The CaféTO program was launched in 2020 when, due to the impact of the COVID-19 pandemic lockdowns and public health restrictions, traffic volumes were at their nadir and restaurants were trying to lure customers back with outdoor dining. Today circumstances have changed — traffic volumes have peaked, and restaurant spending in Canada has returned to normal levels[45] — but the city issued permits for 60 new curb lane cafés in 2024, in addition to the 244 already in operation.[46] As part and parcel of reassessing on-street parking, the placement of current and future CaféTO curb lane patios should be reviewed based upon the impact they have on circulating traffic, especially on major arterial roadways serving as dedicated connectors.

Incentivize off-peak deliveries (OPD)

The City should more actively promote off-peak deliveries by addressing two key challenges: improving courier productivity and receiver access in congested areas, and minimizing the added costs of off-peak operations. Potential solutions include encouraging buildings to provide pickup/drop-off areas or consolidation centers through building codes or bylaw adjustments, supported by harmonized data to optimize locations. While parcel lockers offer automation, their size and access limitations suggest a need for broader solutions. To offset costs, the City could consider further supporting zero-emission vehicle adoption, and investing in charging infrastructure. Additional incentives, such as allowing zero-emission couriers limited access to bus lanes, could help balance costs while aligning with sustainability goals. Collaboration with businesses and delivery providers would be key to success.



ACTION 4

Clear the Bottlenecks

Traffic moves best when lanes are open, when views are unobstructed and, crucially, when movement patterns are predictable. Wherever traffic turns into a scramble of lane changes, improvisation and risk-taking, gridlock quickly ensues. In some parts of our region, this scramble takes place daily on and around our highway on-ramps and off-ramps, where weaving and turning conflicts seize up traffic entering and exiting the expressway.

The root of the problem often lies in the outdated design of our urban expressways: poorly situated ramps and difficult turns that require a multitude of lane changes over short distances. In many such cases, we can redesign available road space to better manage traffic flow, minimize weaving conflicts, accommodate more vehicles, and relieve the pressure.

The Challenge of Urban Expressways

The Toronto region is a densely populated area that provides precious little "runway" space for vehicles transitioning from expressway travel to the urban grid. Nowhere is this better exemplified than on the Gardiner Expressway – arguably the only road that carries traffic seamlessly east-west through the downtown corridor.

The Gardiner is a workhorse of the Toronto region's transportation network, carrying more than 150,000 vehicles daily between Jameson and Spadina Avenues. It serves as a critical east-west connector for commuters and freight, linking the downtown central business district directly to broader region and its municipalities. Traffic on the Gardiner and to its on-ramps has significant spillover effects on adjacent downtown roads. Queueing vehicles back up onto numerous roads such as Lake Shore Blvd, Spadina Avenue, York Street, Bay Street, and Jarvis Street, negatively impacting transit riders, cyclists, and pedestrians.[47]

The Gardiner is a workhorse of the Toronto region's transportation network, carrying more than 150,000 vehicles daily between Jameson and Spadina Avenues. It serves as a critical east-west connector for commuters and freight, linking the downtown central business district directly to broader region and its municipalities.

While the Board is not a traffic planning agency, this work reflects the type of thinking and problem-solving that cities across the region need to deploy at scale to improve traffic flow on critical corridors.

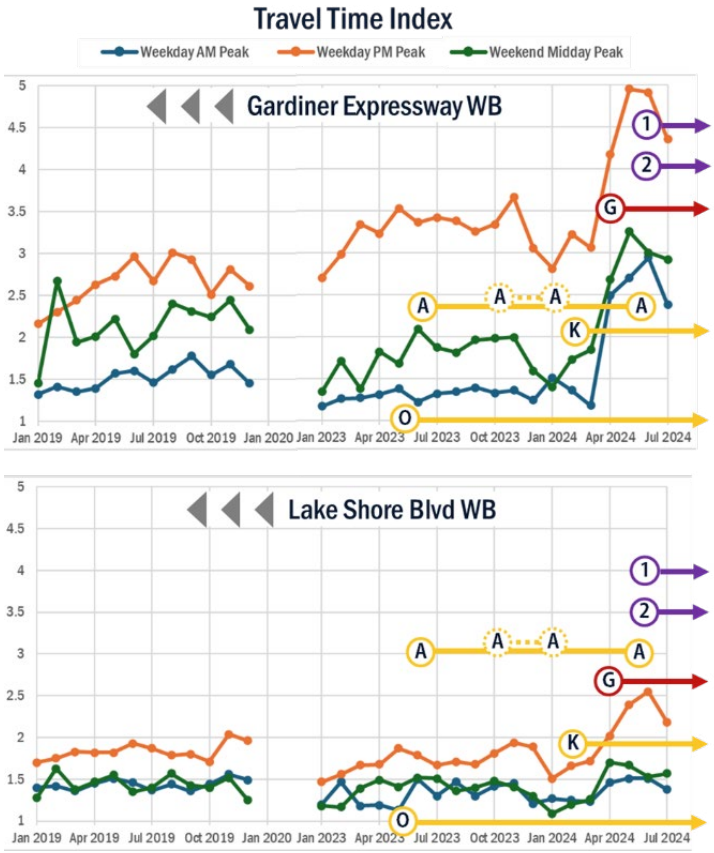
The Bottleneck Problem

Congestion on the Gardiner has gotten much worse since April 2024, when construction and maintenance related work imposed lane restrictions. Spillover from other roads under construction (King St W., Queen St., and Adelaide St.) has also contributed. However, congestion especially during weekday peak times, predates these projects. One of the inherent underlying challenges is the Gardiner itself - built in 1962, sections of the expressway don't conform to modern design standards. Additionally, driver behaviour, in the form of uncontrolled weaving and merging at on and off ramps is another factor, exasperated by sub-optimal infrastructure design.

The analysis classifies the impact of these operational limitations as high. The Board commissioned Parsons to further look into practical solutions to alleviate congestion on key sections of the Gardiner Expressway and its surrounding road network that are feasible within short timelines and with minimal construction. While the Board is not a traffic planning agency, this work reflects the type of thinking and problem-solving that cities across the region need to deploy at scale to improve traffic flow on critical corridors.

During the PM peak, drivers on the westbound Gardiner take 5.5 times longer to cover the same distance compared to overnight hours, while those on eastbound Harbour Street face delays that are more than 3 times longer. As shown in Figure 4.1 there are multiple concurrent construction projects near the Gardiner Expressway that limit the transportation network's ability to absorb diverted trips from the Gardiner Expressway.

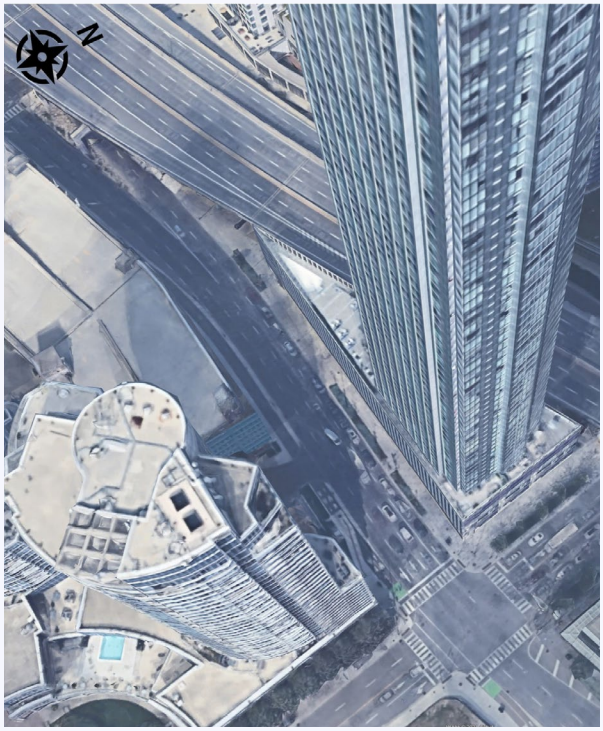
Figure 4.1. Gardiner Expressway and Lake Shore Boulevard Travel Time Trends



SIGNIFICANT EVENTS

- (G) Gardiner Rehabilitation Section 2
  Dufferin to Strachan
  Lane restriction
  (Apr 2024 - Summer 2026)
- (K) King St W Construction
  Dufferin to Shaw
  Lane restriction and extended full closure (Feb - Sept 2024)
- (O) Ontario Line
  Queen St full closure begin
  (May 1, 2023)
- (A) Adelaide St. Contruction
  Travel lane reduced to one
  (June 2023 - Summer 2024)
- (A) Adelaide St Construction
  Rolling full closure from York to Victoria
  (Oct 2, 2023 - Dec 15, 2023)
- (1) Jameson Ave on-ramp opens
  (Jun 2024)
- (2) Enhanced traffic operation improvement and congestion management measures improvement
  (Jun 2024)

One practical way to improve traffic flow at Harbour and York could be to physically separate the two main streams of traffic: vehicles coming from Lake Shore Boulevard and the Gardiner off-ramp.



Harbour St at York St

CALLS TO ACTION

Three Recommendations to Improve Traffic Flow Around the Gardiner Expressway

1. RE-ENGINEER KEY BOTTLENECKS FOR IMMEDIATE IMPACT

Based on the above criteria, two specific areas were identified where lane restrictions and other minor changes could help improve traffic flow.

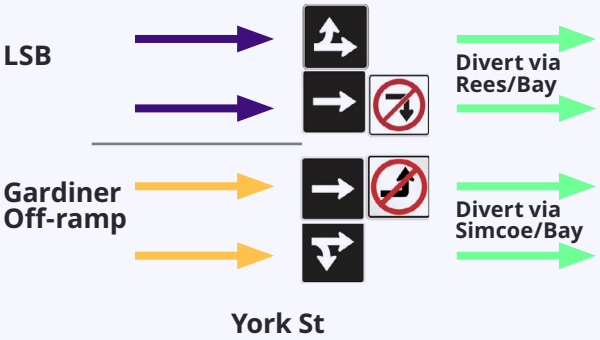
Bottleneck 1: Harbour Street at York Street

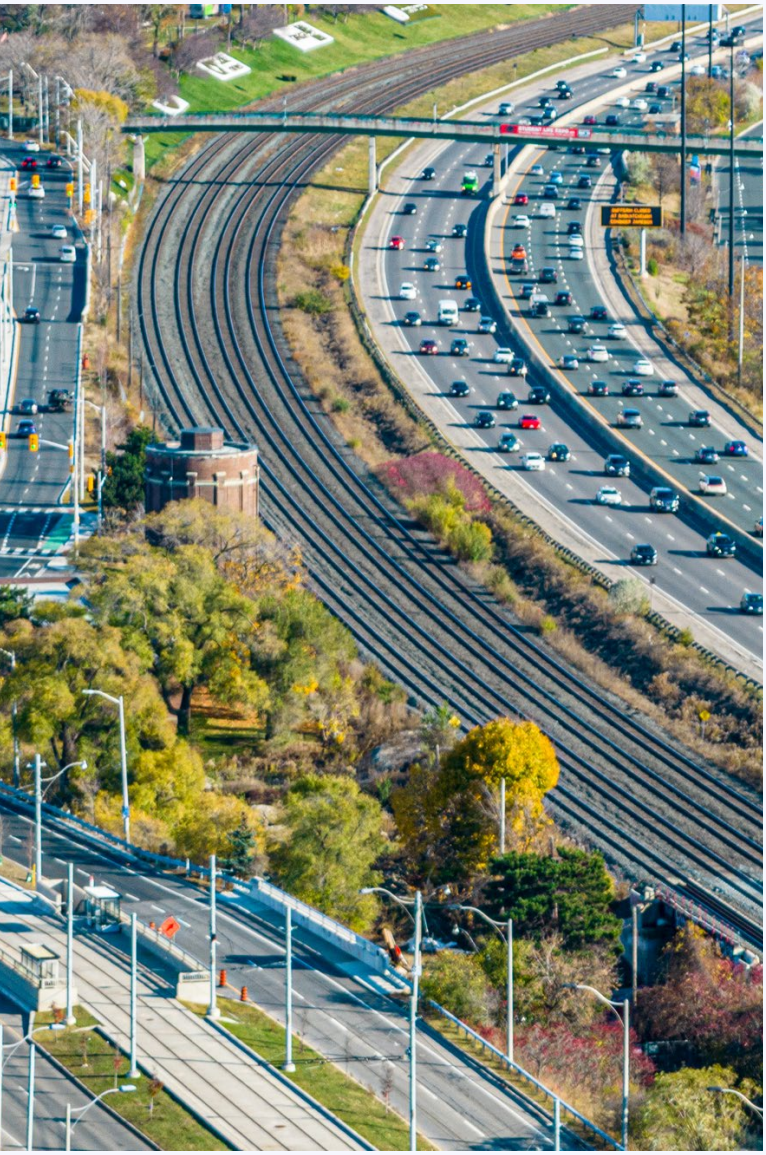
Traffic data for this intersection reveals that the majority of vehicles from Lake Shore Boulevard West and the Gardiner Off-Ramp continue east along Harbour Street and Lake Shore Boulevard (65% and 56%, respectively).

However, about a quarter (20-30%) of vehicles make a left-turn northbound on Bay Street, while a small number (3-5%) make a left onto York Street.[48] The result is a quagmire of queuing and weaving vehicles. In plain terms: vehicles exiting the Gardiner must make two lane changes within a mere 100 metres, competing for space with traffic from Lake Shore, to access the York Street left-turn lane. Once they do, a lack of queueing space on York street, results in spillback onto Harbour Street. This intersection highlights how a small volume of turning traffic can disproportionately impact the majority of vehicles.

Gardiner Expressway WB
York St On-ramp - Spadina Ave Off-ramp

Figure 4.2. Physical Separation with Full Turn Restrictions





Potential Short-Term Solution: Physical Separation with Turn Restrictions

One practical way to improve traffic flow at Harbour and York could be to physically separate the two main streams of traffic: vehicles coming from Lake Shore Boulevard and the Gardiner off-ramp. This solution would entail adding barriers to separate these streams to ensure that each has its own dedicated lanes. To further reduce conflicts, certain turning movements would be restricted: no eastbound right turns for vehicles coming from Lake Shore Boulevard and no eastbound left turns for vehicles coming from the Gardiner off-ramp.

By eliminating weaving and merging conflicts, this solution prioritizes the majority of traffic that continues eastward on Harbour Street. With minimal construction, it's a relatively straightforward fix that makes the intersection more efficient for everyone.

Bottleneck 2: Gardiner Westbound between York Street and Spadina Avenue

Built in 1962, this section of the expressway has outdated weaving areas that are too short for modern traffic demands, causing frequent congestion during peak periods as merging and weaving traffic reduce capacity.[49] Vehicles entering at the York Street on-ramp compete for space with through traffic and with counter-weaving vehicles accessing the Spadina off-ramp. The resulting delays spill back from York into Toronto's downtown streets, affecting intersections as far as Front Street.

Westbound between York Street and Spadina Avenue, the Gardiner is operating at a volume-to-capacity (V/C) ratio of 0.97, meaning the highway is operating at 97% of its maximum capacity and near the point of effectively failing to handle traffic demand.[50]

The extended implementation timeline means that interim actions are needed to mitigate current operational challenges. As part of the longer-term Gardiner reconstruction project, we have identified short-term solutions that could help in the meantime.

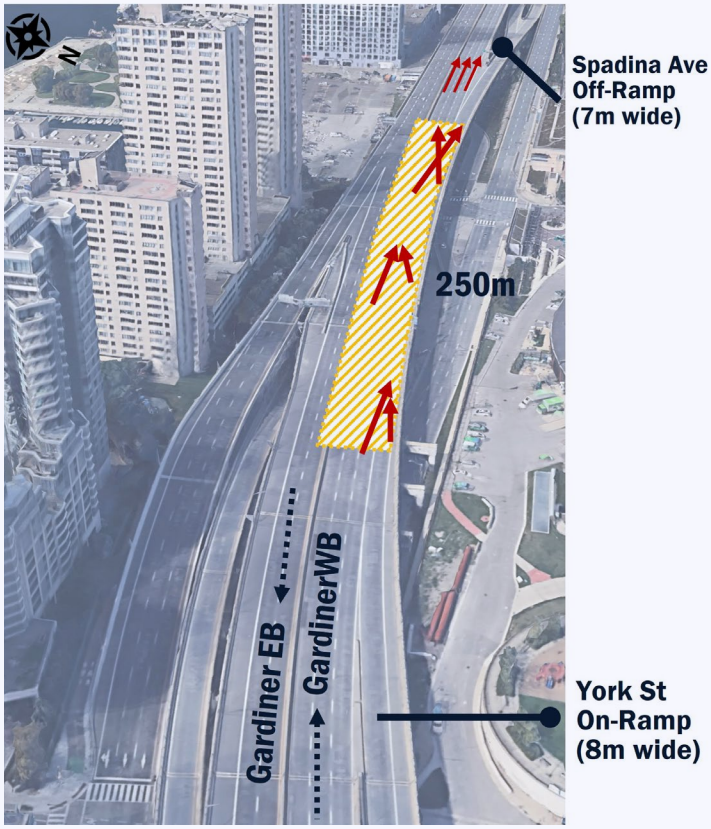
The impacts of this change would be relatively minor and depend on compliance from drivers. But it would be quick and simple to implement, making the most of the existing road design.

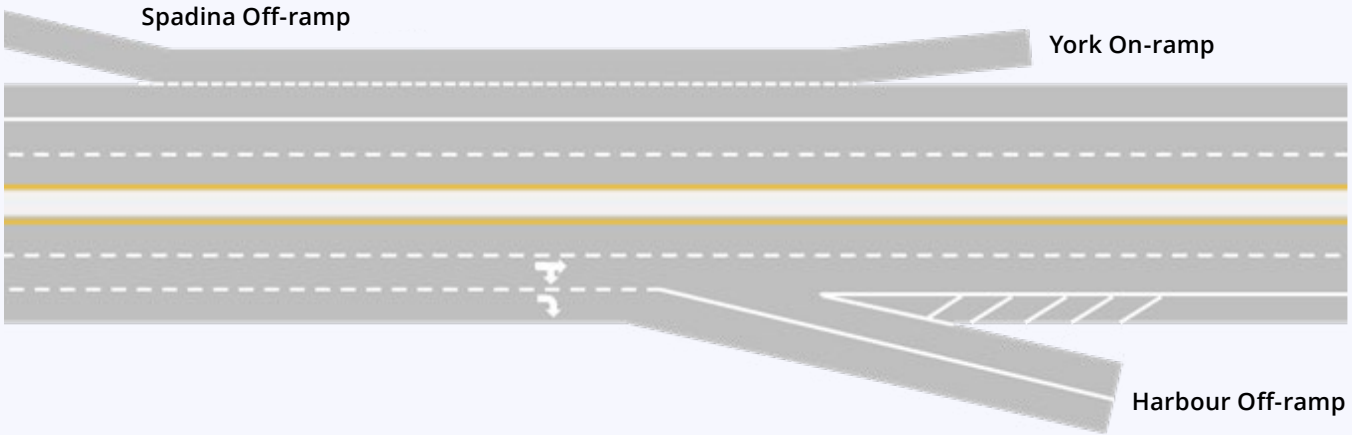
Potential Short-Term Solution: Lane Change Restrictions

One way to reduce congestion on the Gardiner between the York Street on-ramp and Spadina Avenue off-ramp is to limit where merging and weaving can happen. This option keeps the current number of lanes but adds a solid line to separate the two leftmost lanes from the right lane and on-ramp.

Vehicles exiting at Spadina would be directed into the rightmost lane before reaching the York on-ramp, while all merging traffic from the York on-ramp would also stay in the rightmost lane past Spadina. This straightforward, express-and-collector lane arrangement would reduce conflicts between merging vehicles and through traffic, ensuring that merging happens in a more controlled and predictable way.

The impacts of this change would be relatively minor and depend on compliance from drivers. But it would be quick and simple to implement, making the most of the existing road design. Simple solutions that even slightly improve near stand-still gridlock conditions must be part of any congestion management plan.





2. PILOT RAMP METERING ON THE GARDINER

Ramp metering offers another practical and proven solution for regulating the flow of vehicles entering the Gardiner, preventing the abrupt surges in traffic density that lead to breakdowns, stop-and-go conditions, and delays. Ramp meters function as traffic signals, allowing vehicles onto the highway at set intervals, making merging easier and safer and creating an overall steadier flow of traffic. A 2016 study conducted at the University of Toronto demonstrated the potential benefits of implementing adaptive ramp control on the Gardiner Expressway, highlighting that a significant portion of congestion on downtown key arterial roadways is due to limited access and reduced flow along the Gardiner Expressway.[51]

Studies indicate that ramp metering can enhance safety by minimizing collisions near on-ramp exits by as much as 36%;[52] improve travel speed reliability substantially by 40%,[53] and increase the number of vehicles that can pass through a specific section of road within a given time period by almost 10%.[54]

Toronto's implementation could leverage its existing Intelligent Transportation Systems (ITS) to dynamically adjust metering rates based on real-time conditions, ensuring functionality during peak periods and adverse weather, with the addition of specialized hardware such as dedicated signals, controllers, and detection systems to manage freeway inflows effectively

MELBOURNE CASE STUDY: LESSONS FOR TORONTO

Toronto and Melbourne are both dynamic metropolitan centres with growing populations and intricate transportation networks, sharing urban characteristics that make them comparable in terms of traffic congestion and transportation planning challenges. Since the early 2000's, Melbourne's successful ramp metering system has contributed to a 20% reduction in travel time variability, and a notable decrease in rear-end collisions. The system integrates real-time data from traffic sensors and cameras to continuously monitor and adjust metering rates, preventing congestion and maintaining optimal traffic flow. Melbourne's system also leverages the HERO algorithm (Highway Efficiency and Reliability Optimisation), which dynamically adjusts metering rates across multiple ramps to optimize freeway efficiency.

The Monash Freeway's Wellington Road on-ramp, once notorious for long queues spilling into local streets, saw smoother merges and shorter queues after metering was introduced. These outcomes underscore how ramp metering can alleviate congestion while supporting safer and more predictable commutes.

As a pilot project, Toronto could implement ramp metering at high-impact locations such as the York Street and Spadina Avenue on-ramps, where merging conflicts frequently create bottlenecks and disrupt downtown traffic. To mitigate potential spill over and back up on neighbouring streets, Toronto could take Melbourne's approach of using queue overrides, which temporarily deactivate the meters when local street congestion reaches critical levels. This helps prevent excessive backup on surface streets.

As Melbourne's experience shows, ramp metering is a cost-effective way to maximize the capacity of existing infrastructure while supporting long-term mobility goals.

3. PROMOTE ZIPPER MERGING ON THE GARDINER EXPRESSWAY

Zipper merging is a straightforward yet highly effective technique to improve traffic flow at on-ramps, particularly during peak congestion. It involves drivers using the entire length of the merge lane and alternating one-by-one at the merge point, reducing unnecessary gaps and ensuring smoother entry onto the freeway.

While this method can reduce traffic backups by up to 40%[55], many Ontario drivers still merge early, leaving merge lanes underutilized and creating stop-and-go conditions. To make zipper merging a standard practice, the region will need to embark on a broad public education campaign explaining how it works and the benefits it provides.

Organizations like the CAA have already launched campaigns to encourage zipper merging in construction zones. The Province could build on these efforts by launching campaigns of its own, and by installing fixed and mobile signage at key Gardiner on-ramps. Promoting zipper merging as standard practice would shorten queues spilling into downtown streets, alleviating congestion for all road users, including transit riders, cyclists, and pedestrians.

Promoting zipper merging as standard practice would shorten queues spilling into downtown streets, alleviating congestion for all road users, including transit riders, cyclists, and pedestrians.

ACTION 5

Implement Accountability Mechanisms

Decision-making processes, and the policies that guide their outcomes, are substantial contributors to traffic congestion. Gridlock in the street is abetted daily by decisions in government boardrooms. At one point in 2024, nearly one of every five Toronto streets was fully or partially closed for construction — the result of hundreds of individual decisions by varying levels of government, some taken months or years apart, that effectively made the city unnavigable.

It is clear that a cultural shift in how we plan and govern mobility is necessary.

It is clear that a cultural shift in how we plan and govern mobility is necessary. The current approach to transportation decision-making is often reactive, fragmented, and politicized, leading to inefficiencies, delays, and missed opportunities for alignment. A shift toward a culture of innovation and accountability is essential. This means fostering proactive coordination across all levels of government, ensuring a common language of data and analysis, and embracing evidence-based decision-making. To get transportation right the first time, we need decision-making structures that embed a culture of innovation, accountability, and strategic collaboration—one that puts the region's mobility needs ahead of jurisdictional divides.

Who's Responsible for Traffic Flow?

Governance in Toronto
Whether by accident or by design, the City of Toronto's current governance structure often treats traffic congestion as an unfortunate byproduct of higher-priority activities. The decisions that impact traffic congestion emanate from a broad variety of departments, divisions, and agencies that often work in silos. To paint just a partial sketch:

- The **City Planning** division issues construction permits for private development.
- The **Economic Development & Culture** division assists the film and television production industries with location shoots and produces major cultural events.
- The **TTC** is responsible for public transit operations.
- The **Transit Expansion** division oversees all processes related to transit expansion.
- The **Engineering and Construction Services** division manages major municipal projects.
- The **TPA** manages on-street and off-street parking as well as the city's bike share program.
- The **Municipal Licensing and Standards** division is responsible for taxis and ride-sharing.
- The **Toronto Police Service** is responsible for issuing traffic infractions in the city.

In the midst of all this activity is the city's Transportation Services division, which is responsible for road maintenance (from pothole repair to snow removal and beyond), pavement markings, traffic signalization, and "traffic planning and right of way management and enforcement." But its authority to ease congestion is mitigated by the priorities, activities and decisions of other government actors.

Recent Improvement Efforts

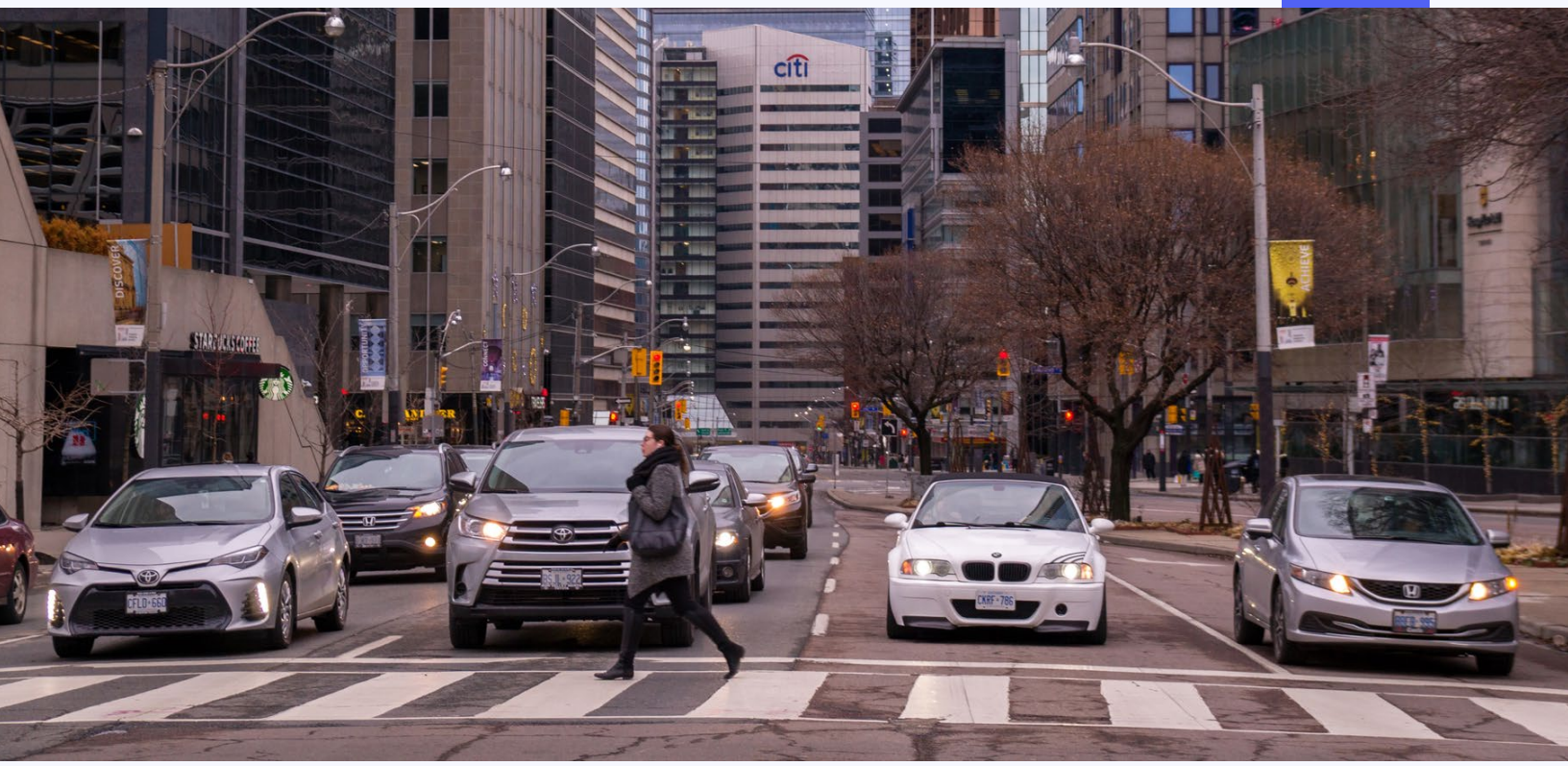
Transportation Services is responsible for the city's 2023-26 Congestion Management Plan (CMP), which is itself a series of collaborative initiatives with other divisions and other stakeholders. Based upon last October's CMP update, and given the competing interests it is asked to balance, Transportation Services has made substantial progress working with all its partners.[56]

In September 2024, the city's Department of Infrastructure Services — the organizational umbrella that includes Transportation Services — established the city's new Strategic Capital Coordination Office (SCCO). This Office will bring all stakeholder divisions together alongside the TTC, public utilities, and private developers. Its mandate is to coordinate both the planning and delivery of capital projects, particularly in cluster areas of high activity, designing and implementing new process improvement tools and ensuring the swift resolution of conflicts. The SCCO will publish an annual performance report.

Both the CMP and the SCCO have the potential to improve urban mobility — provided that all partner stakeholders also prioritize the traffic impacts of their work. Embedding accountability for congestion in key leadership roles through specific KPIs would also prioritize pragmatic approaches. Direct oversight by political decision makers is necessary – the tradeoffs that the SCCO will need to make need their backing and support.

Intergovernmental Coordination

The city's ability to manage traffic congestion requires a great deal of cooperation with neighbouring municipalities, and it is both constrained and facilitated by the provincial government. The Province, through its agencies, is leading the expansion of rapid transit which is a major contributor to lane closures. It is also responsible for all the highways that cross the city and the region. The Province also holds policy, legislative, and funding levers that shape municipal decision-making. The federal government, while not directly involved in construction on the ground, is a major funder of various projects, which often comes with strings or conditions attached. Conversations between provincial and municipal officials take place every day, but there is no structure governing intergovernmental discussions related to traffic congestion.



CALLS TO ACTION

Two Recommendations to Improve the Quality and Pace of Decision-Making

1. ESTABLISH A CULTURE OF ACCOUNTABILITY FOR GRIDLOCK AT CITY HALL

Responsibility for congestion cannot be delegated solely to Transportation Services, which is just one of the city's 33 divisions, many of which have a substantial influence on traffic flow. Gridlock is everyone's problem, and fixing it must be everyone's job. That will require a shift in the city's organizational culture.

The congestion crisis needs stronger leadership and accountability. The city needs to establish a structure that consistently reviews all city business through a congestion impact lens. The recommendations of this Action Plan's prior chapters serve as inspiration for what such a structure's duties might be: monitoring and publishing KPIs for traffic flow; providing leadership on new enforcement initiatives; overseeing the management of dedicated connector roads; leading efforts to reduce lane closures by reforming the city's permit and pricing regime; and more.

This structure could take any number of forms. One possibility is the creation of a new office, led by a cross-departmental commissioner to coordinate mobility efforts across agencies and to troubleshoot congestion hot spots. This must achieve the desired outcome: greater urgency, stronger leadership, and more robust accountability on the issue of congestion.

Another possibility is the creation of a new office, led by a cross-departmental commissioner to coordinate mobility efforts across agencies and to troubleshoot congestion hot spots.

2. IMPLEMENT A MECHANISM FOR DECISION-MAKING AT THE REGIONAL LEVEL

Traffic congestion is not confined to the City of Toronto; it is a regional issue that impacts the entire GTHA. Key transportation arteries, such as highways and transit corridors, cross municipal boundaries, making regional coordination essential. Without alignment, municipalities and agencies risk working at cross purposes, exacerbating gridlock and wasting resources.

As the Board noted in its August 2024 report *The Price of Progress*, the alignment of municipal and provincial departments and agencies "cannot rely on cultural norms and relationships alone."[57] Our governments need structured forums to guide their discussions, providing a framework for prioritizing solutions to conflicting priorities.

The Price of Progress recommended "formalized governance structures that include decision-makers" for individual transit expansion projects. The concept applies just as well to the broader problem of traffic congestion in the city: provincial and municipal decision-makers — and their agencies, including the TTC, the TPA, Metrolinx, and Infrastructure Ontario —should be meeting regularly to discuss collaborative strategies to reduce gridlock, and reporting publicly on the outcomes of those meetings.

One possible solution would be to establish a GTHA-wide table, which can provide the leadership and structure needed to align efforts across the region, ensuring that regional mobility challenges are addressed holistically and effectively.

The alignment of municipal and provincial departments and agencies "cannot rely on cultural norms and relationships alone." Our governments need structured forums to guide their discussions, providing a framework for prioritizing solutions to conflicting priorities.

LOOKING AHEAD

Plan for Growth

There will never come a time when Toronto's roads aren't operating at full capacity. Even in an imaginary future where all the construction is complete —the transit lines built, the cranes dismantled, and all available traffic lanes open — demand for road space, especially during peak travel hours, is likely to always exceed supply.

This is the new normal Toronto must confront. Our comparator cities, such as New York, London, and Tokyo, have been living in this reality for decades. Like them, we will need to perpetually manage our traffic in an active, orderly, and predictable manner. This final chapter proposes key strategic priority areas we must consider for the medium to long term to ensure mobility on city streets through the decades of growth ahead.

Toronto's Future: What Lies Ahead

More People & Jobs

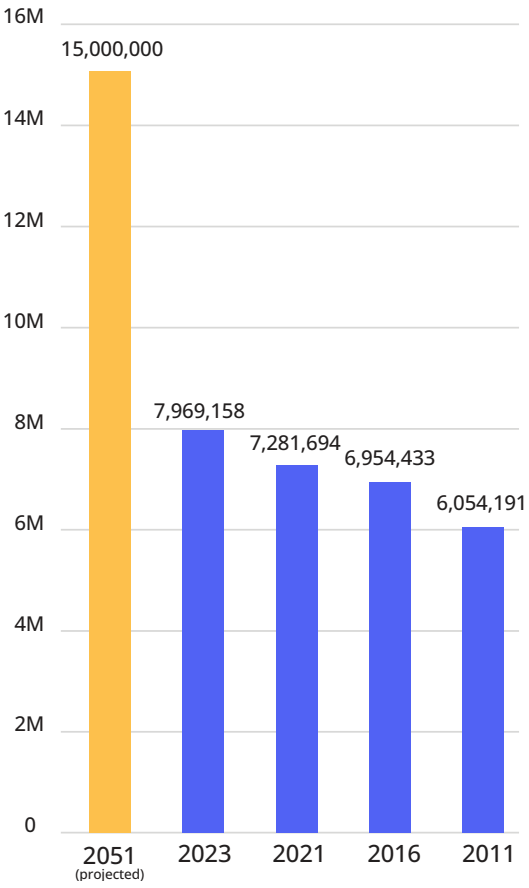
The population of the GTHA was just a shade under 8 million people in 2023, an increase of 31% in just 12 years. According to the provincial government's most recent projections, the GTHA will reach 10.5 million people by 2046 (Figure 6.1).[58]

Much of Toronto's growth has been, and will be, concentrated in the downtown core. Of the 186,100 new condo units registered in Toronto from 2002 to 2018, more than half — 77,656 units to be exact, or 58% of the total — were located in the downtown and the central waterfront areas.[59] The city's economy is projected to grow as well. A recent report prepared for the Province by Hemson Consulting noted that there were nearly 1.7 million people working in Toronto in 2021, and projected the city would add another 100,000 to 200,000 jobs by 2041.[60]

We have underestimated our growth in the past: In 1996, the city's Flashforward report projected that Toronto's population would grow to 3 million by 2031.[61] The city surpassed the 3 million mark in 2022, nine years ahead of schedule, and is likely to reach 3.5 million by 2030.[62]

All of this growth represents ever-increasing demand for road space across all modes of travel, for both commuting and discretionary trips, from within the city and from its surroundings.

Figure 6.1. Current and Anticipated Population in the GTHA[63]



Description: GTHA Population 2011-2051. Source: Various.

Setting Priorities

Three Strategic Considerations for Managing Congestion in the Decades Ahead

To address this unprecedented growth and its implications for mobility, and to avoid a repeat of the congestion crisis in the decades ahead, Toronto must act decisively on several fronts. Each of these strategic areas of focus will be critical to ensuring the city remains livable, connected, and economically vibrant well into the future.

Governments must think strategically about increasing transit ridership beyond its pre-pandemic 27% mode share, including the construction of additional rapid transit lines.

STRATEGIC PRIORITY 1

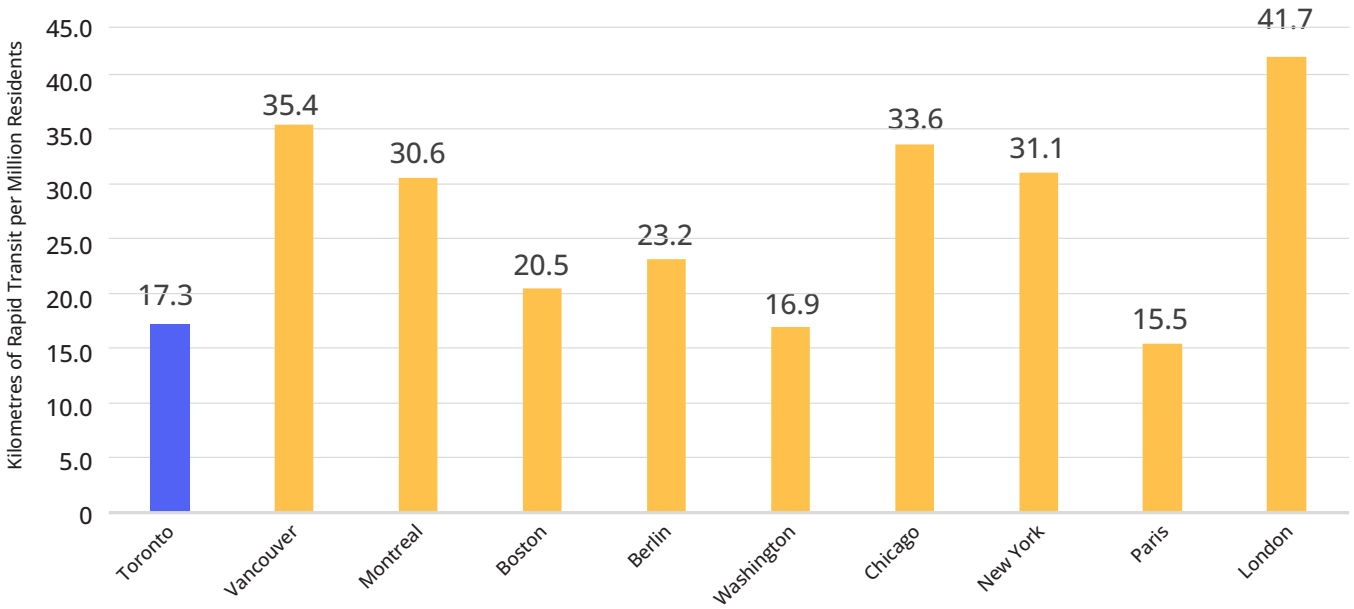
Make Safe, Efficient, and Reliable Transit the Backbone of Regional Mobility

Continue to expand and optimize transit

To better manage additional travel demand, Toronto will need to encourage more people to take public transit. While transit ridership is nearing or even matching in some cases pre-pandemic levels, the recovery has been slower than car commuting. Furthermore, given the large population increase Toronto has experienced since the pandemic, 2019 transit ridership levels do not provide a clear benchmark.

The addition of new rapid transit lines will help restore transit as a more viable travel option. But as evidenced in Figure 6.3, even this expansion is just getting us caught up to peers. Governments must think strategically about increasing transit ridership beyond its pre-pandemic 27% mode share, including the construction of additional rapid transit lines.

Figure 6.3: 2035 Projection of Rapid Transit per Metropolitan Population[64]



Description: Comparison of Various City's Projected 2035 Rapid Transit Per Length per million metropolitan residents. (Parsons. Source: Calculation based on various sources including TTC, Metrolinx, and Statistics Canada. Note: Does not include GO expansion which will deliver rapid transit within Toronto).

Build Rapid Transit Better, Faster, and with Greater Value for Money

Rapid transit projects must prioritize timely delivery and cost efficiency while maintaining high-quality standards. As the Board advocated in its 2024 report *The Price of Progress: Enabling the Delivery of Critical Transit Infrastructure*, leveraging proven strategies such as streamlined procurement processes and greater reliance on public-private partnerships can help Toronto accelerate project timelines and ensure value for money in every investment.

Service Integration and Operational Efficiency

Transit must be safe, reliable, and frequent for ridership to grow at the levels needed. For this, operating and state-of-good-repair funding is as critical as building new infrastructure. The region must also focus on seamless integration through shared routes or coordinated schedules across transit agencies to better serve existing demand. Steps to improve reliability and reduce travel times, such as extending protected bus lanes like those piloted on Bloor Street, must also be funded and incentivized by all orders of government.

Integrating Vehicle-for-Hire Drop-Offs into GO Transit Expansion

The Ontario government's expansion of GO Transit is a vital step forward, complemented by the development of transit-oriented communities. However, many municipalities may lack adequate first- and last-mile connections to immediately support and grow ridership. To address this gap, it's essential to accommodate the ways people currently access transit, whether it be walking, cycling, or being dropped off by relatives or vehicle-for-hire services. This includes designing safe and accessible drop-off areas with proper lighting, shelter, and other amenities. By prioritizing these connections, we can create a seamless transit experience that encourages greater public transit use while meeting the needs of today's travelers.

Use the Water for Transit

Toronto's waterfront is an untapped asset for urban mobility. Expanding water-based transportation can reduce congestion and promote connectivity along the downtown waterfront, across the city, and the region. The city's Island Ferry operations, currently undergoing fleet modernization and terminal upgrades, demonstrate the role of water transit in serving recreational needs. PortsToronto's electrified ferry to Billy Bishop Airport highlights how water transit can be tailored to meet specific demands efficiently and sustainably. Looking across the pond, London's Thames Clippers showcase how water transit can integrate seamlessly into urban networks, serving both commuters and visitors.

Building on these examples, Toronto has the opportunity to expand water transit to unlock the full potential of its waterfront, creating a more connected and accessible city.

TRANSIT: A TOP PRIORITY FOR THE BOARD

For over a decade the Board has made improving transit a top priority. In recent years, the Board has released seminal reports to transform the region's transit system, including: *Erasing the Invisible Line*, which advocated for fare and service integration,[65] *Getting on the Right Track,* which proposed unlocking the potential of regional rail,[66] *Next Stop,* which addressed the last mile, service coverage, and service frequency improvements,[67] and the *Price of Progress,* which explored managing transit infrastructure expenses and accelerating delivery.[68] The Board also released the *Transit Report Cards*, which scored regional transit systems and offered each municipality recommendations to improve service delivery.[69]

STRATEGIC PRIORITY 2

Maintain and Grow Multi-modal Transportation Capacity

In addition to thinking strategically about transit expansion and optimization of existing operations, we must protect and grow critical infrastructure hubs for goods movement. The growing pressure for housing in the region risks overlooking the importance of other land uses. The Board has been drawing attention to the challenges of balancing land use between housing and logistics infrastructure and the need for regional industrial lands policy which provides regulatory certainty for businesses to locate and expand. The push for coordinated efforts to protect and expand critical employment lands to sustain the Toronto region's economic growth was kickstarted with the release of the Race for Space[70] report in 2023. A number of examples demonstrate this tension:

Protect and Grow Critical Logistics Land and Manufacturing Hubs

Toronto's growing population and economic activity require scalable and interconnected transportation options. Freight rail and truck volumes have grown even faster than population over the last 15 years. We require strategic planning to move not just people on transit but also goods on movement corridors. Truck connectivity is essential for the effective operation of rail intermodal yards, airports, and marine ports, as virtually 100% of final consumer product distribution relies on trucks, with no scalable substitute currently available.

Enhancing intermodal logistics hubs across the region, including in Vaughan, Brampton, and Scarborough, is critical. Yet sometimes projects linger in regulatory delays and lack of broader buy-in. One example is the Milton Logistics Hub whose approval status has been in flux for years, delaying a project that is crucial to strengthening the region's supply chain resilience and economic competitiveness, and moving trucks off our highways. Such delays undermine Toronto's ability to meet growing freight demands and support sustainable economic growth. Other areas that require strategic focus include:

GTA West Economic Gateway: The economic zone where Toronto, Mississauga, Brampton, and Vaughan converge around Toronto Pearson International Airport represents a critical hub for goods movement and employment activity, supporting almost 500,000 jobs and serving as a cornerstone of our nation's economy and global competitiveness by contributing more than $50 billion to the economy. With the announcement that a proposed airport lands in Pickering by the Government of Canada will now be transferred to Parks Canada, the expansion and upgrading of the country's biggest airport for people and cargo - and the planning of the economic hub around it, which is a significant congestion hotspot - will be an even bigger priority.

Billy Bishop Airport is the ninth busiest in the country, contributing $2.1 billion to the economy and supporting 4,450 direct jobs.[71] It's a crucial air travel hub that helps mitigate congestion by dispersing the ground traffic that results from air travel through a second hub, while providing shorter trips for business travelers and tourists heading downtown. Ongoing delays to the long-term extension of the tripartite agreement governing the airport, and to the much-needed modernization and upgrading of the airport's facilities, pose a threat to mobility for travelers. In addition, better connectivity to the airport would also facilitate its use.

The **Port of Toronto and the Port of Hamilton**, similarly, remain important resources for the Toronto region as key intermodal hubs that are either underutilized or need to be expanded. In recent decades, the Port of Toronto's operational footprint has been reduced significantly due to waterfront revitalization and plans for more housing, though it remains a crucial landing point for bulk goods such as cement, steel, sugar, and road salt that takes tens of thousands of trucks off the region's already congested highways. Without both ports, the cargo they handle would need to be trucked into the city and our region, contributing substantially to both congestion and to roadway wear-and-tear. How cargo moves to and from the port must be a key consideration as part of Ontario's Marine Transportation Strategy alongside the need for parks, housing, and employment uses, as well as commercial and entertainment facilities for the waterfront to be a key tourist destination.

In recent decades, the Port of Toronto's operational footprint has been reduced significantly due to waterfront revitalization and plans for more housing, though it remains a crucial landing point for bulk goods such as cement, steel, sugar, and road salt that takes tens of thousands of trucks off the region's already congested highways.

Congestion pricing is no silver bullet and requires political championing and strong transit alternatives to be successful. In the future, targeted pilot projects - with clear objectives and a robust equity framework - could test viability.

STRATEGIC PRIORITY 3

Future-proof our Thinking

Finally, our region needs to envision where the world of urban transportation is headed. As mobility strategies and technologies continue to evolve, we need to make sure we have the technical capabilities and policy levers in place to adopt and integrate them.

Rethinking Congestion Pricing: a Targeted Solution

Congestion pricing is no silver bullet and requires political championing and strong transit alternatives to be successful. In the future, targeted pilot projects - with clear objectives and a robust equity framework - could test viability. Toronto's history of deliberating congestion pricing, including discussions around tolling mechanisms for major highways such as the Gardiner Expressway and Don Valley Parkway, highlights the challenges of achieving consensus under the current legislative and political landscape, and the need for strong political championing. The experiences of other cities provide valuable insight.

- In London, a cordon pricing system reduced vehicle trips by 17% and pollution by 15%.[72]
- Stockholm's variable pricing reduced congestion queues by 30% to 50%.
- Vancouver, which has explored pricing mechanisms as part of its climate and mobility strategies but did not chose to move forward, offers additional lessons in engaging stakeholders and framing pricing as part of a broader sustainability agenda.
- New York City's recent move to implement congestion pricing underscores the importance of securing political champions who will persevere through setbacks, and of integrating public transit investments into the strategy. Preliminary data from New York indicates congestion pricing has succeeded in its desired impacts.

Both London and Stockholm have demonstrated that clearly communicating benefits and reinvesting revenues into public transit improvements are critical to success.

For Toronto, the path forward could begin with discussions around targeted interventions, such as pricing specific highway on-ramps or piloting "choice lanes" to create express toll options for drivers. These initiatives can build on the region's existing experience with high-occupancy-toll lanes to provide immediate traffic relief while gathering the data and public trust needed to consider broader deployment once new rapid transit lines become fully operational.

Navigating Technological Innovation

Toronto is at a crossroads in integrating emerging technologies into its transportation network, balancing opportunities for innovation with the need for effective regulation**. E-scooters**, for instance, are banned on Toronto streets due to safety and accessibility concerns but have shown success in neighbouring areas like Waterloo, where regulated programs reduce car trips and provide flexible, low-impact travel options. Similarly, **drones**, already valuable in rural deliveries, could alleviate urban congestion and enhance last-mile logistics for e-commerce and medical goods if pilot projects address airspace management and public trust. **Autonomous vehicles** (AVs) present another frontier; while Toronto and Ontario lead in AV development, critical policy and infrastructure gaps—such as smart infrastructure upgrades and dynamic lane management—must be addressed to enable their adoption. By learning from regional and global peers, engaging stakeholders, and implementing pilot projects, Toronto can create a framework that prioritizes safety, accessibility, and sustainability while harnessing the potential of these transformative technologies.

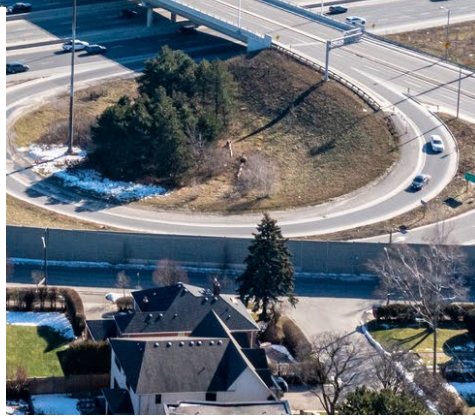
Conclusion

As this Action Plan makes clear, Toronto's traffic congestion is a crisis of management and a lack of planning. Gridlock is not just a thing that happens; it is the result of human decisions made and not made, of policies adopted and reforms foregone, over the course of years. By making better decisions, coordinating our efforts, and applying a series of targeted interventions, we can untie the Gordian knot of congestion and restore mobility to our region's streets.

The comprehensive research commissioned by the Board has provided new insight into Torontonians' opinions on congestion, its costs and root causes, the current state of our roads, and best practices among Toronto's peers. Based upon that research and the deliberations of our Congestion Governing Council and Task Force, this Action Plan proposes 5 immediate solutions that, if implemented together, can provide fast relief not only for motorists but for transit riders, cyclists, and pedestrians. It also identifies 3 key areas for strategic planning to ensure we avoid a repeat of our current congestion crisis and think proactively about the continued growth that's to come in the region.

Time is of the essence. Congestion is an albatross that stifles business investment, hinders our economic competitiveness, mars our reputation, and corrodes our quality of life. Solving our congestion crisis will require strong political leadership backed by the support of the business community, professional associations, civic institutions, and more. The Board will continue to serve as a catalyst as we advocate for the measures recommended in this Action Plan.

The Board calls for the full adoption of this Congestion Action Plan. The time for stop-gap measures and fragmented solutions is over. Only by tackling congestion on multiple fronts simultaneously—designating and optimizing connector roads, reducing unnecessary lane closures, re-engineering bottlenecks, balancing road use more effectively, and leveraging automated enforcement—can we restore the efficient movement of people and goods. Automated enforcement, along with strong political accountability and coordination, will be critical to ensuring lasting impact. The path forward is clear; now is the time to act.



Time is of the essence. Congestion is an albatross that stifles business investment, hinders our economic competitiveness, mars our reputation, and corrodes our quality of life.

Endnotes

1 TomTom. (2024). *Traffic index ranking*. Retrieved from https://www.tomtom.com/traffic-index/ranking/

2 Toronto Region Board of Trade. (2024, July 16). *New Board of Trade congestion polling shines spotlight on congestion*. Retrieved from https://bot.com/News/New-Board-of-Trade-Congestion-Polling-Shines-Spotlight-on-Congestion

3 Canadian Centre for Economic Analysis. (2024, December). *Impact of congestion in the GTHA and Ontario*. Retrieved from https://www.cancea.ca/wp-content/uploads/2024/12/Impact-of-Congestion-in-the-GTHA-and-Ontario-December2024.pdf, page 9.

4 Parsons' study area for its Board-commissioned research consists of the City's Planning District 1 and all arterial roads and expressways within this area. The Parsons research draws from multiple open source datasets including the Transportation Tomorrow Survey, Canadian Census data, and City of Toronto open data. The core of the analysis is based on travel time data collected by HERE Technologies, provided by the City of Toronto, and vehicle volume data from StreetLight. HERE gathers traffic data from various sources, including connected devices such as cell phones, personal navigation tools, and vehicle sensors. This data is aggregated from over 120 GPS providers and mapped to specific road segments, typically less than two kilometers in length. StreetLight's vehicle volume data, specifically, Average Annual Daily Traffic (AADT) and Origin-Destination (OD) travel patterns, are derived from multiple data sources—such as Connected Vehicle Data (CVD), GPS Data, Commercial Truck Data, and Location-Based Services (LBS) Mobility Data.

5 Statistics Canada. (2023, August 22). *Commuting patterns in Canada, 2021 Census of Population*. Retrieved from https://www150.statcan.gc.ca/n1/daily-quotidien/230822/dq230822b-eng.htm

6 Parsons Corporation. (2024, December 2). *Percentage of roadway congested – Downtown Toronto expressways & major arterials* [Figure 5]. In *Downtown Toronto congestion study: Final report* (p. 12). Toronto Region Board of Trade.

7 Parsons Corporation. (2024, December 2). *Travel Time Index Profile – Downtown Toronto Expressways & Major Arterials* [Figure 6]. In *Downtown Toronto Congestion Study: Final Report* (p. 12). Prepared for the Toronto Region Board of Trade.

8 Parsons Corporation. (2024, December 2). *Speed Profile – Downtown Toronto Major Arterials* [Figure 7]. In *Downtown Toronto Congestion Study: Final Report* (p. 13). Prepared for the Toronto Region Board of Trade.

9 Adapted from: Parsons Corporation. (2024, December 2). *Extent of Severe and Critical Congestion* [Figure 12]. In *Downtown Toronto Congestion Study: Final Report* (p. 19). Prepared for the Toronto Region Board of Trade.

10 Parsons Corporation. (2024, December 2). *Comparison of Various City's Current Rapid Transit Length per Million Metropolitan Area Residents* [Figure 18]. In *Downtown Toronto Congestion Study: Final Report* (p. 26). Prepared for the Toronto Region Board of Trade.

11 City of Toronto. *Transit expansion.* Retrieved from https://www.toronto.ca/services-payments/streets-parking-transportation/transit-in-toronto/transit-expansion/ (In procurement and construction: YNSE 8km ; SSE 7.8; ECLRT 19; Finch West 11; OL 15.5; ECWE 9.2)

12 Parsons Corporation. (2024, December 2). *GTHA Population 2011–2021* [Figure 28]. In *Downtown Toronto Congestion Study: Final Report* (p. 33). Prepared for the Toronto Region Board of Trade.

13 CPCS. (2024, November 12). Goods Movement Presentation to TRBOT Congestion Task Force. Toronto includes the following CMAs: Toronto, Hamilton, St. Catharines, Guelph, Kitchener, Barrie, Oshawa, Peterborough.

14 Canadian Centre for Economic Analysis. (2024, December). *Impact of congestion in the GTHA and Ontario.* Retrieved from https://www.cancea.ca/wp-content/uploads/2024/12/Impact-of-Congestion-in-the-GTHA-and-Ontario-December2024.pdf (p. 15).

15 Parsons Corporation. (2024, December 2). *Downtown Toronto Congestion Study: Final Report* (p. 10). Prepared for the Toronto Region Board of Trade.

16 Parsons Corporation. (2024, December 2). *Downtown Population, Households, and Household Vehicles from 1986 to 2016* [Figure 26]. In *Downtown Toronto Congestion Study: Final Report* (p. 31). Prepared for the Toronto Region Board of Trade.

17 City of Toronto. *Road Occupation by Type and by Duration* [Figures 1 and 2]. In *City of Toronto Congestion Management Plan 2023-26 – Fall Update*. (pg. 7). Retrieved from https://www.toronto.ca/legdocs/mmis/2024/ie/bgrd/backgroundfile-248975.pdf

18 Parsons Corporation. (2024, December 2). *Length of Active and Future Work Zones Through 2025* [Figure 47]. In *Downtown Toronto Congestion Study: Final Report* (p. 54). Prepared for the Toronto Region Board of Trade.

19 City of Toronto. (2024, December 19). *Congestion management dashboard.* Retrieved from https://www.toronto.ca/wp-content/uploads/2024/12/966b-2024-12-19-TS-Congestion-Management-Dashboard.pdf

20 Ibid.

21 City of Toronto. *Complete streets guidelines.* Retrieved from https://www.toronto.ca/services-payments/streets-parking-transportation/enhancing-our-streets-and-public-realm/complete-streets/complete-streets-guidelines/

22 Geotab. *Gardiner Traffic Slowdowns Are Impacting Business Productivity, Altitude by Geotab Analysis Reveals*. Retrieved from https://altitude.geotab.com/news-and-releases/toronto-traffic-congestion/

23 Metrolinx. *Business Case Manual Volume 2: Guidance.* (2021). Retrieved from, https://assets.metrolinx.com/image/upload/v1663237565/Documents/Metrolinx/Metrolinx-Business-Case-Guidance-Volume-2.pdf

24 Steer Group. (2024, November). *Road Blocks: Incentivizing Smarter Road Closures* (p. 7). Prepared for the Toronto Region Board of Trade.

25 Steer Group. (2024, November). *Fees Across Different Jurisdictions* [Figure Exc.2]. In *Road Blocks: Incentivizing Smarter Road Closures* (p. 6). Prepared for the Toronto Region Board of Trade.

26 Steer Group. (2024, November). *Road Blocks: Incentivizing Smarter Road Closures* (p. 40). Prepared for the Toronto Region Board of Trade.

27 Government of Ontario. (2024, July 24). *Ontario accelerating construction on the Gardiner Expressway by at least one year*. Retrieved from, https://news.ontario.ca/en/release/1004859/ontario-accelerating-construction-on-the-gardiner-expressway-by-at-least-one-year

28 TARBA, GTSWCA, HCAT. (2024, Sept 25). *Letter to Infrastructure and Environment Committee of the City of Toronto*. https://www.toronto.ca/legdocs/mmis/2024/ie/comm/communicationfile-183031.pdf

29 Canadian Automobile Association (CAA). (2021). Driver behaviour and road safety. Retrieved from https://www.caa.ca/app/uploads/2021/05/18-CAA-Infrastructure_Papers-DriverBehaviour_v1.pdf

30 Parsons Corporation. (2024, December 2). *Root Cause of 2023 Congestion for King St* [Table 7]. In *Downtown Toronto Congestion Study: Final Report* (p. 77). Prepared for the Toronto Region Board of Trade.

31 City of Toronto, *Red Light Cameras - Vision Zero* (https://www.toronto.ca/services-payments/streets-parking-transportation/road-safety/vision-zero/vision-zero-dashboard/red-light-camera-vision-zero/)

32 Pagliaro, J. (2021, February 17). *Steeper fines for Toronto drivers caught blocking the box: 'You're going to pay'*. Toronto Star. Retrieved from https://www.thestar.com/news/gta/steeper-fines-for-toronto-drivers-caught-blocking-the-box-youre-going-to-pay/article_1eb23bea-7124-11ef-8eea-4bd895bd359a.html

33 Rider, D. (2020, December 8). *'What's the point?' City Hall wants $450 fines for blocking the box, but Toronto police rarely enforce rules.* Toronto Star. Retrieved from https://www.thestar.com/news/gta/what-s-the-point-city-hall-wants-450-fines-for-blocking-the-box-but-toronto/article_bd1517f8-5996-11ef-9729-df8be1d29efe.html

34 Habibinia, M. (2024, October 30). *Steeper fines for Toronto drivers 'blocking the box'.* Toronto Star. Retrieved from https://www.thestar.com/news/gta/steeper-fines-for-toronto-drivers-caught-blocking-the-box-youre-going-to-pay/article_1eb23bea-7124-11ef-8eea-4bd895bd359a.html

35 Parsons Corporation. (2024, December 2). *Rush Hour No Stopping and Standing Tickets Issued Between 2019 and 2023* [Figure 54]. In *Downtown Toronto Congestion Study: Final Report* (p. 63). Prepared for the Toronto Region Board of Trade.

36 City of Toronto. (2024, July 29). *Additions to Municipal Code Chapter 610: Changes to Parking Penalties Effective August 1, 2024*.

37 Toronto Parking Authority. (2024, Nov 13). *Presentation to TRBOT Transportation, Infrastructure, Land Use Policy Committee*.

38 Transport for London. *CCTV privacy notice.* Retrieved from https://tfl.gov.uk/corporate/privacy-and-cookies/cctv

39 Transport for London. *Safety enforcement cameras.* Retrieved from https://tfl.gov.uk/corporate/safety-and-security/road-safety/safety-enforcement-cameras#on-this-page-2

40 Car.co.uk. *UK red light cameras: Everything you need to know.* Retrieved from https://www.car.co.uk/media/blogs/general/uk-red-light-cameras-everything-you-need-to-know

41 Aldred, R. and Croft, J. (2009). *An evaluation of the South West London bus priority scheme.*University of Westminster. Retrieved from https://westminsterresearch.westminster.ac.uk/download/23e6566f5f0b484007e2391cb7fc907c5d1b-4bad3e9e7cca6fe841f59667a4be/780454/Hounslow_revising_final_updated.pdf

42 Royal Society for the Prevention of Accidents (RoSPA). (2023, October). *Speed cameras: Factsheet* (p. 3). Retrieved from https://www.rospa.com/getmedia/4b1dc15b-b396-4bd6-8d4d-1dd80d093db0/Speed-Cameras-factsheet-Oct-23.pdf

43 Pozarycki, R. (2024, September 16). *MTA automated camera enforcement begins with warning period*. AMNY. Retrieved from https://www.amny.com/nyc-transit/mta-automated-camera-enforcement-warning-09162024/

44 City of Toronto. (March 26, 2018). *Road Classification Amendments.* Retrieved from https://www.toronto.ca/legdocs/mmis/2018/pw/bgrd/backgroundfile-113782.pdf

45 Restaurants Canada. *Fast facts.* Retrieved from https://www.restaurantscanada.org/fast-facts/

46 Habibinia, M. (2021, March 10). *CAFTO bounces back after City retools outdoor dining program.* Toronto Star. Retrieved from https://www.thestar.com/news/gta/caf-to-bounces-back-after-City-retools-outdoor-dining-program/article_45fac384-81c8-11ef-997a-a7ded05ac775.html#:~:text=The%20City%20revived%20its%20Caf%C3%A9TO,approval%2C%20to%20get%20the%20ramps.

47 Parsons Corporation. (2025, January 17). *Addendum to Downtown Toronto Congestion Study: Bottleneck Analysis and Best Practice Review* (p. 9). Prepared for the Toronto Region Board of Trade.

48 Parsons Corporation. (2025, January 17). *Addendum to Downtown Toronto Congestion Study: Bottleneck Analysis and Best Practice Review* (p. 9). Prepared for the Toronto Region Board of Trade.

49 Parsons Corporation. (2025, January 17). *Addendum to Downtown Toronto Congestion Study: Bottleneck Analysis and Best Practice Review* (p. 14). Prepared for the Toronto Region Board of Trade.

50 Parsons Corporation. (2025, January 17). *Addendum to Downtown Toronto Congestion Study: Bottleneck Analysis and Best Practice Review* (p. 15). Prepared for the Toronto Region Board of Trade.

51 University of Toronto Transportation Research Institute. (2016, December 15). *Study on Adaptive Ramp Control on the Gardiner Expressway.* Retrieved from https://uttri.utoronto.ca/wp-content/uploads/sites/19/2016/12/4-Adaptive-Ramp-Metering-A-Case-Study-on-the-Gardiner-Expressway.pdf

52 University of Toronto Transportation Research Institute. (2016, December 15). *Study on Adaptive Ramp Control on the Gardiner Expressway.* (p. 24). Retrieved from https://uttri.utoronto.ca/wp-content/uploads/sites/19/2016/12/4-Adaptive-Ramp-Metering-A-Case-Study-on-the-Gardiner-Expressway.pdf

53 Parsons Corporation. (2025, January 17). *Comparison of Congestion Hotspots (Roadway Occupancy) Before and After the Implementation of HERO Ramp Metering* [Figure 15]. In *Addendum to Downtown Toronto Congestion Study: Bottleneck Analysis and Best Practice Review* (p. 16). Prepared for the Toronto Region Board of Trade. Most reliable speeds expanded just under 20% to just over 60%.

54 Parsons Corporation. (2024, December 2). *Downtown Toronto Congestion Study: Final Report* (p. 25). Prepared for the Toronto Region Board of Trade.

55 Canadian Automobile Association (CAA). (2021). *Driver behaviour and road safety.* Retrieved from https://www.caa.ca/app/uploads/2021/05/18-CAA-Infrastructure_Papers-DriverBehaviour_v1.pdf

56 City of Toronto. (2024, October 10). *Agenda item IE16.4*. Retrieved from https://secure.toronto.ca/council/agenda-item.do?item=2024.IE16.4

57 Toronto Region Board of Trade. (2024, August). *The price of progress: Enabling the delivery of critical transit infrastructure* (p. 20). Retrieved from https://bot.com/Resources/Resource-Library/The-Price-of-Progress

58 Government of Ontario. (2024). *Chapter 1: Demographic trends and projections 2024 - Regional Demographic Outlook.* In *Ontario's long-term report on the economy 2024.* Retrieved from https://www.ontario.ca/document/ontarios-long-term-report-economy-2024/chapter-1-demographic-trends-and-projections-2024#section-1

59 Parsons Corporation. (2024, December 2). *Downtown Toronto Congestion Study: Final Report* (p. 31). Prepared for the Toronto Region Board of Trade.

60 Hemson Consulting Ltd. (2020, August 26). *Greater Golden Horseshoe: Growth forecasts to 2051.* Ministry of Municipal Affairs and Housing. Retrieved from https://www.hemson.com/wp-content/uploads/2020/08/HEMSON-GGH-Growth-Outlook-Report-26Aug20.pdf?

61 City of Toronto. (2002). *Flashforward: How many people will there be in the GTA? Projecting population and employment to 2031 in a mature urban area.* Toronto City Planning Division. Retrieved from https://www.toronto.ca/wp-content/uploads/2017/08/9534-Flashforward-How-Many-People-Will-There-Be-in-the-GTA.pdf?

62 City of Toronto. *Toronto at a glance*. Retrieved from https://www.toronto.ca/city-government/data-research-maps/toronto-at-a-glance/

63 Parsons Corporation. (2024, December 2). *GTHA Population 2011–2021* [Figure 28]. In *Downtown Toronto Congestion Study: Final Report* (p. 33). Prepared for the Toronto Region Board of Trade.
Sources: 2011-2023 forecast: Statistics Canada (2024); 2*044 population forecast: Canadian Centre for Economic Analysis.* (2024, December). *Impact of congestion in the GTHA and Ontario: Economic and social risks* (p. 11). *Residential & Civil Construction Alliance of Ontario and the Ontario Road Builders' Association*; 2051 population forecast: Metrolinx. GO expansion projects. Metrolinx. Retrieved from https://www.metrolinx.com/en/projects-and-programs/go-expansion-projects

64 Parsons Corporation. (2024, December 2). *Comparison of Various Cities' Projected 2035 Rapid Transit Length per Million Metropolitan Residents* [Figure 20]. In *Downtown Toronto Congestion Study: Final Report* (p. 27). Prepared for the Toronto Region Board of Trade.

65 Toronto Region Board of Trade. (2020, November). *Erasing the Invisible Line: Integrating the Toronto Region's Transit Networks.* Retrieved from https://bot.com/Resources/Resource-Library/Erasing-the-Invisible-Line

66 Toronto Region Board of Trade. (2024, August). *Getting on the Right Track: Connecting Communities with Regional Rail.* Retrieved from https://bot.com/Resources/Resource-Library/Getting-on-the-Right-Track

67 Toronto Region Board of Trade. (2021, November). *Next stop: Building Universal Transit Access*. Retrieved from https://bot.com/Resources/Resource-Library/Next-Stop-Building-Universal-Transit-Access

68 Toronto Region Board of Trade (2024, August). *The Price of Progress.* Retrieved from https://bot.com/Resources/Resource-Library/The-Price-of-Progress

69 Toronto Region Board of Trade. (2023, July). *Transit Report Cards*. Retrieved from https://bot.com/Resources/Resource-Library/Transit-Report-Cards

70 Toronto Region Board of Trade. (2024, December 10). *Race for space: Navigating Toronto's employment lands crisis.* Toronto Region Board of Trade. https://bot.com/Events/Race-for-Space-Navigating-Torontos-Industrial-Lands-Crisis

71 Newswire. (2024, July 23). *Leaders from all sectors pen open letter advocating for Billy Bishop Toronto City Airport's sustained operation and development*. Retrieved from, https://www.newswire.ca/news-releases/leaders-from-all-sectors-pen-open-letter-advocating-for-billy-bishop-toronto-city-airport-s-sustained-operation-and-development-849296275.html

72 C30 Cities. (2024, September 6). *Congestion Pricing Presentation to TRBOT Congestion Task Force*.

The Toronto Region Board of Trade is one of the largest and most influential chambers of commerce in North America and is a catalyst for the region's economic growth agenda. Backed by more than 11,500 members, we pursue policy change to drive the growth and competitiveness of the Toronto region, and facilitate market opportunities with programs, partnerships and connections to help our members succeed – domestically and internationally.

For more on making Toronto one of the most competitive and sought-after business regions in the world, visit **bot.com** and follow us at **@TorontoRBOT**.

ACKNOWLEDGEMENTS

The work of the Congestion Task Force was led by Monika Wyrzykowska, Azana Hyder, and Anahid Najafizadeh, with significant research and support from Samuel Carlisle, Phinjo Gombu, Jeremy Piamonte, and Saad Usmani. This Action Plan was developed by the Toronto Region Board of Trade with writing by Atelier Creative, edited by Avi D'Souza and Scott Douglas, designed by LDD Studio, and kindly reviewed by Jeff Lang-Weir, Jennifer van der Valk, David Campbell, Roselle Martino, and Giles Gherson.