

Road Blocks:

Incentivizing Smarter Road Closures

NOVEMBER 2024



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Executive Summary

Introduction

Congestion is a significant problem for Toronto and the wider region. Each day congestion increases travel time for thousands of travellers, delays the delivery of goods and service delivery, and increases the environmental impact of mobility. Based on these impacts, congestion is a common theme in policy statements, news headlines, and the experiences of travellers in Toronto. It is included alongside housing affordability, productivity losses, and climate change in the City's 10-Year economic development strategy and a key issue for the Province.

The Cost of Congestion: Impacts on the Economy, Travellers, and the Community at Large

 \$11 Billion CAD¹	In lost productivity and opportunity cost per year
 \$2,000 - \$4,000 CAD²	Value of travel time lost to congestion for the average commuter annually
 \$110 CAD²	Additional money spent on fuel by the average commuter annually
 150kg²	Additional kilograms of CO2 emitted by the average commuter annually

Road closures are a key contributor to congestion – whether they are planned (for example: construction to deliver needed infrastructure) or unplanned (example: emergency maintenance). They can reduce road capacity for days, weeks, months, or even years resulting in increased travel times, longer delays, and the need to reroute. Toronto has been described as one of the most congested cities in North America. In response to this challenge the Toronto Region Board of Trade commissioned Steer to assess the wider costs of road closures and practises to manage them and mitigate their impacts.

1 C.D. Howe. Cars, Congestion and Costs: A New Approach to Evaluating Government Infrastructure Investment. 2013. https://www.cdhowe.org/sites/default/files/attachments/research_papers/mixed/Commentary_385_0.pdf

2 TomTom. Traffic Index – Toronto Traffic. (2024). <https://www.tomtom.com/traffic-index/toronto-traffic/>

EXECUTIVE SUMMARY STRUCTURE

- **Types of road closures** – what kinds of closures can occur and what impacts do they have.
- **Practice scan** – how does Toronto's approach to managing road closures compare to its peers.
- **Potential paths forward** – four potential actions for how Toronto can take action on road closures.

Road Closures and their Impacts

Table Exc.1 highlights a typology of road closure causes, which have unique costs and benefits.

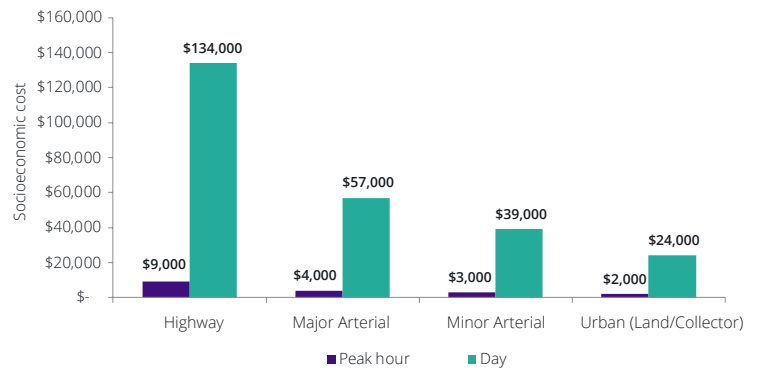
Table Exc.1: Typology of road or lane closures

Closure type	Timeframe	Examples
Infrastructure projects: including road repair, utility replacement and building new transportation infrastructure	Long-term: up to five years	Ontario Line or Gardiner Expressway repairs
Real-estate development: including residential, office, and retail projects	Medium-term: typically less than a year	Yonge and Eglinton construction hub closures
Short-term road maintenance projects	Medium-term: less than 6 months	TTC Streetcar renewal on King Street West
Annual festivals, sporting events, and sidewalk patios	Short-term: several hours to several months	TIFF, CaféTO

CLOSURE IMPACTS

Closures have multiple impacts, including direct impacts on travelers and indirect impacts to communities. Costs associated with these impacts were monetized using methodologies sourced from government cost benefit analysis, including Metrolinx’s Business Case Guidance.³ Monetizing the impacts of road closures helps decision-makers better understand the trade-offs between the actual cost to implement the closure and any benefits or disbenefits that occur because of it. This can help governments make decisions about which closures to allow and inform the cost that could be charged for lane closures. It can also help determine whether it is worth it to accelerating construction timelines to reduce the impact on travelers. Figure Exc. 1 shows the results of Steer’s analysis projecting the socioeconomic cost of closing a lane across different road types in Toronto.

Figure Exc.1: Socioeconomic cost of closing a lane for 1km across different road types

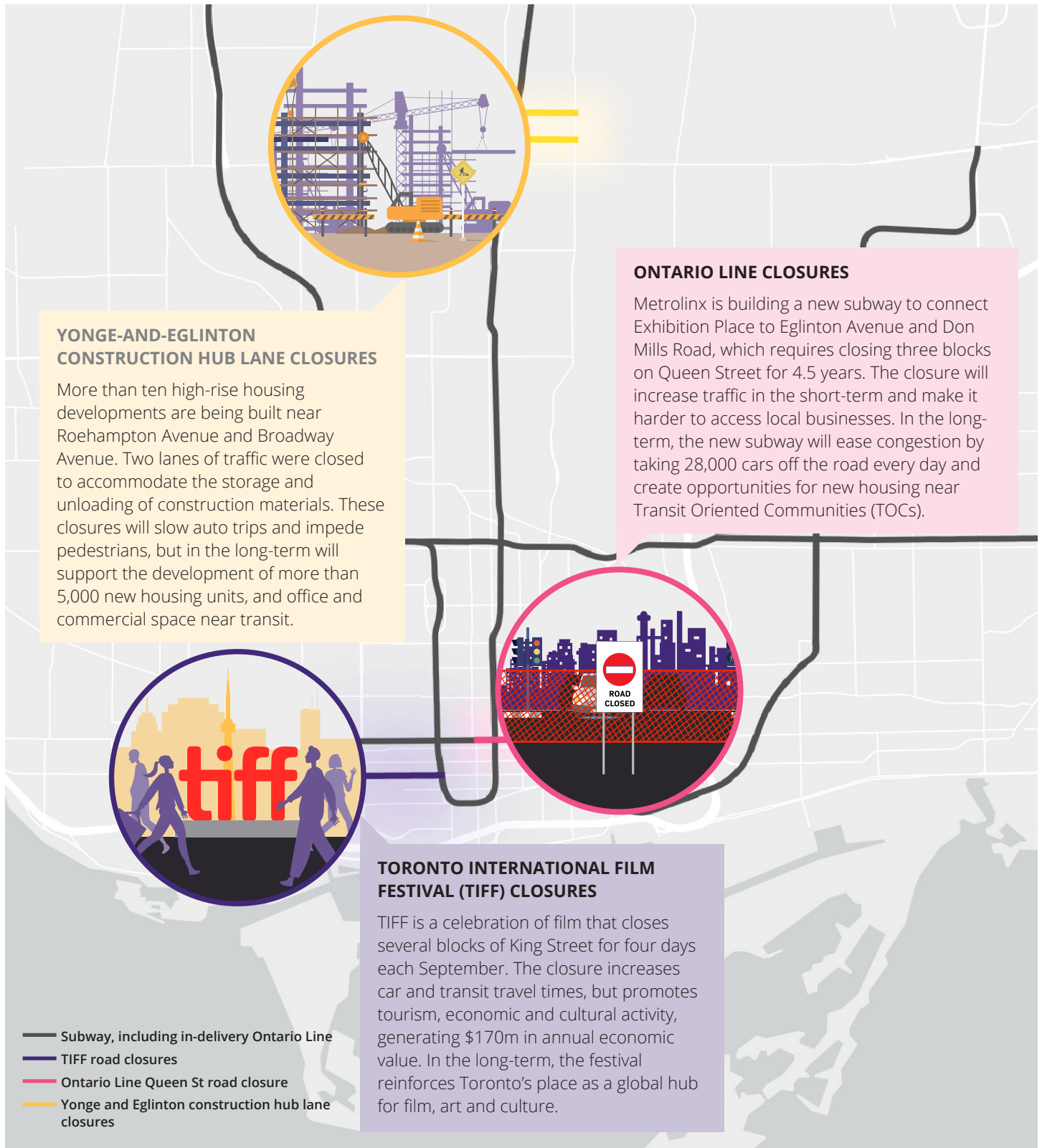


Q TYPES OF CLOSURE IMPACTS THAT ARE MONETIZED IN FIGURE EXC 1 TO UNDERSTAND SOCIOECONOMIC COSTS OF CLOSURES

- **Impacts to travellers** - longer travel times, less reliable travel time, more expensive automobile operating costs
- **Impacts to communities** - worse air quality and increased greenhouse gas emissions; increased risk of death and injury due to more collisions

3 Metrolinx Business Case Manual Volume 2: Guidance. 2021. <https://assets.metrolinx.com/image/upload/v1663237565/Documents/Metrolinx/Metrolinx-Business-Case-Guidance-Volume-2.pdf>

Applying this framework to prominent Toronto closures



Lessons from elsewhere: peer practices to manage road closures and mitigate their impacts

Six global cities with comparable urban forms to Toronto were reviewed to understand how they manage road closures. Global policy responses to mitigate the impacts of road closures can be grouped into two broad categories: determining what closures can occur and deploying incentives to reduce impacts road closures have in their respective regions.

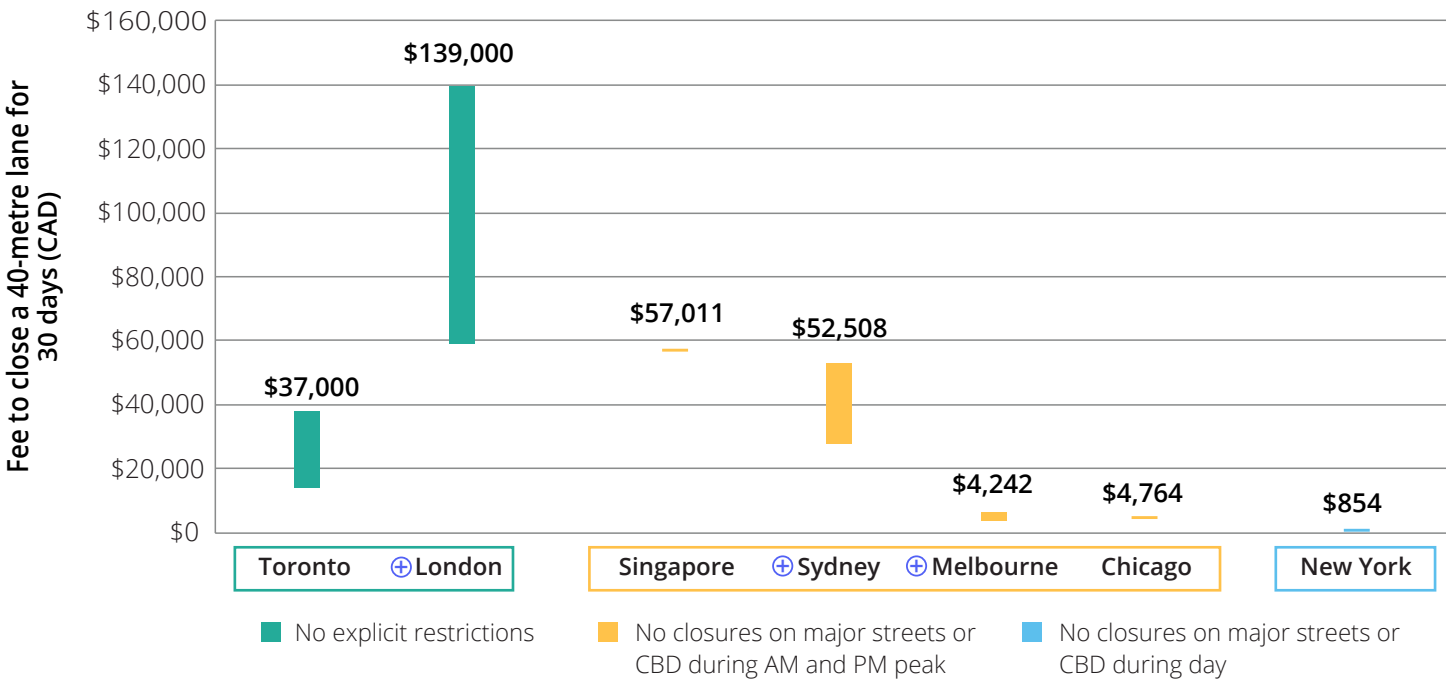
FEES AND RESTRICTIONS – BALANCE STRUCK BY PEER JURISDICTION

Each peer uses a unique blend of fees and restrictions to mitigate road closure impacts. Fees include one-time permitting costs and recurring charges that depend on how many days or months the closure and/or roadway reduction lasts. Restrictions include limitations of road closures in certain areas, times of day, or contexts, as well as mitigation plans that contractors must develop to receive a permit.

Figure Exc.2 describes how Toronto’s fees, restrictions, and permit requirements vary compared to other cities.

Toronto has a road occupancy permitting process and charges a monthly fee, but neither lever is as forceful as its peers’, which either charge higher fees or have more restrictions. It may be that neither Toronto’s restrictions nor prices are sufficiently tough to prevent congestion-creating closures from happening.

Figure Exc.2: Fees across different jurisdictions



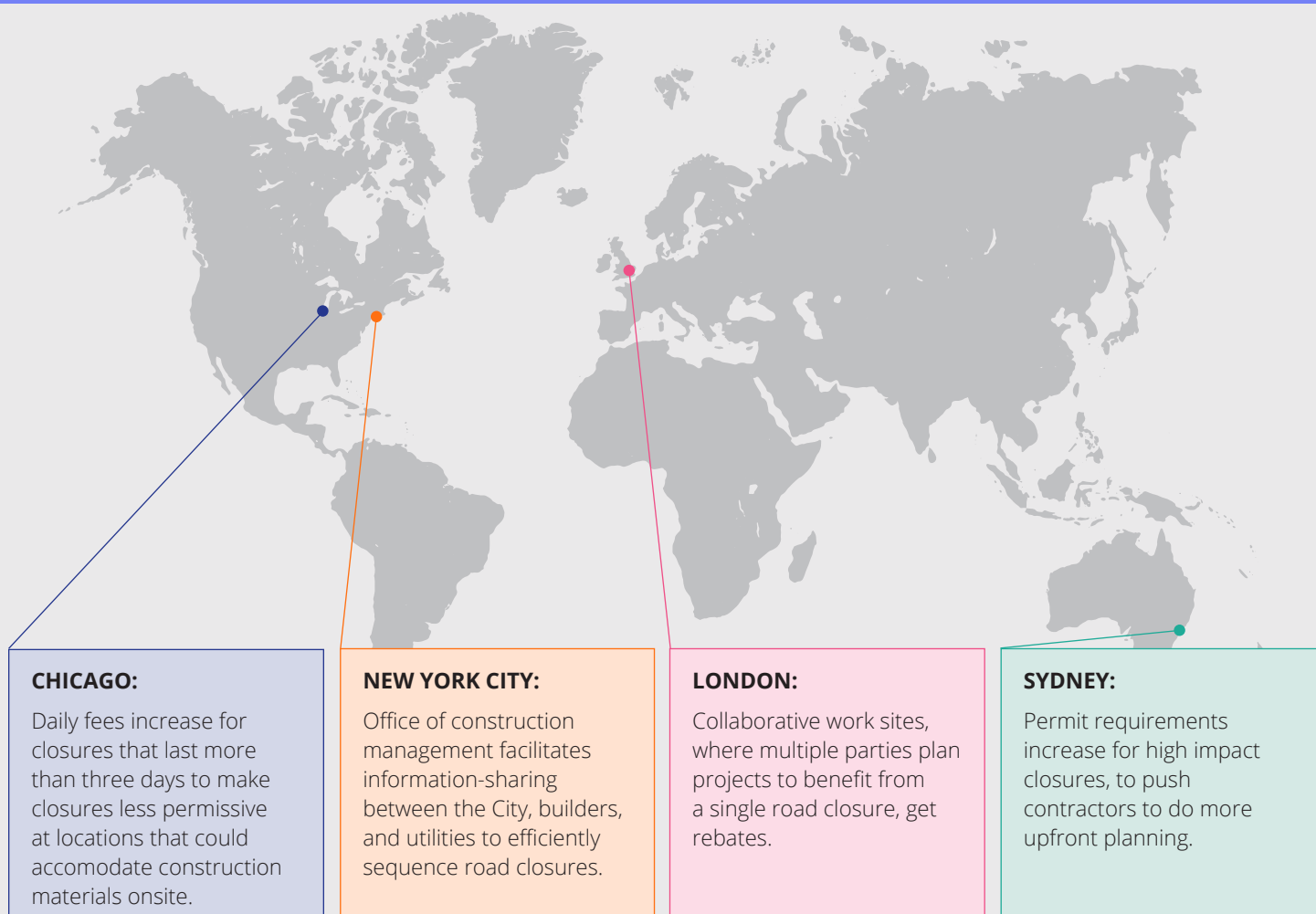
⊕ These cities have the most involved permitting requirements. They require applicants to highlight how they will mitigate construction impacts (for example: how they will make unloading of materials more efficient, suggested diversions for different travel modes).

Compared to its peers, Toronto's pricing and restrictions are also less linked to closure impact:

- **Pricing is based on the price of nearby parking meters, rather than how important the street is to the transportation network.** In London and Sydney, major arteries or pinch-points are priced at the highest rate if closing them would generate significant traffic – even if they are outside of the Central Business District (CBD.)
- **Pricing is static over the course of the day, rather than varying based on road demand.** In London and Singapore, fees are reduced by 50-100% if closures occur during off-peak periods, such as overnight or on Sundays.

- **Restrictions prevent closure work from occurring overnight, rather than preventing closures during the day.** This approach prioritizes the needs of nearby residents over the needs of travelers, by focusing closures to times when road demand is highest. In New York City, Singapore and Melbourne, restrictions prevent road closures during the day on major roads, making overnight work the norm.




ADDITIONAL INCENTIVES AND DISINCENTIVES USED IN PEER JURISDICTIONS TO REDUCE CLOSURE IMPACT



Potential paths forward

Road closures are anticipated to play a part in infrastructure and real-estate development into Toronto's future— whether it is to deliver a new subway, conduct emergency repair of a watermain, or conduct a foundation concrete pour for a new residential complex. This study identified a range of practices or 'paths forward' for consideration.

These actions can help:

-  Reduce the number of closures, especially during peak times.
-  Make closures more predictable in duration and impact.
-  Enable road users to make better choices to avoid congestion.



Best Practices to achieve these outcomes:

Best Practice	Details
 <p>New Ways to Make Decisions: Integrating Wider Impacts and Outcomes of Closures</p>	<p>Consider an outcome-based pricing mechanism that varies based on the socioeconomic costs and benefits of a project, including its effect on congestion. A standard set of inputs and methodologies could be developed to enable the consistent calculation of different costs and benefits from road closures. This would support accurate comparisons across different projects.</p>
 <p>New Regulations: Changing Where/ When Road Closures Are Allowed</p>	<p>Consider examining restrictions and incentives that push closures to off-peak hours to reduce impact on the road network when road demand is highest. This could include:</p> <ul style="list-style-type: none"> → Expanding instances when overnight construction work can occur → Making closures during peak times on major arterials a strict exception → Discounting off-peak closures to incentivize contractors to work during these times → Varying regulations based on how accessible a site is, to make it more difficult to close a lane at locations that could accommodate construction materials onsite
  <p>New Approaches to Collaborate: Planning and Delivering Closures to Mitigate Impacts</p>	<p>Consider augmenting the City of Toronto's new Strategic Capital Collaboration Office to enable collaboration between public and private entities to minimize repeat closures of the same street. This office could:</p> <ul style="list-style-type: none"> → Hold regular meetings to facilitate information sharing → Sequence projects to minimize repeat closures → Oversee a process whereby applicants can get reduced road closure fees if they work on the same site → Engage with road users to share details about closure <p>For the most impactful closures, applicants could be required to provide additional information as part of the permitting process, such as a Construction Logistics Plan that details how materials and equipment will arrive and how they will be unloaded/loaded.</p>
 <p>New Incentives and Management Approaches: Keeping Road Closures Within Agreed Timeframes</p>	<p>Consider adjusting fees based on project length and contractor performance to prevent closures from extending indefinitely. This could include:</p> <ul style="list-style-type: none"> → Increasing the daily fee for closures based on duration in days of closure → Rewarding contractors with consistently high safety and compliance standards

With multiple rapid transit infrastructure projects in delivery and real-estate development set to ramp-up again, the time is now to fix road closure management across the road closure lifecycle. The City has made positive strides since 2023 to improve its road closure management policy, but there are additional lessons that can be learned from other jurisdictions. The paths forward laid out in this report are a starting point to reflect on Toronto's current practices and enable a more prosperous future.



1 Introduction

1.1 Background

Congestion is a common theme in policy statements, news headlines, and the day-to-day experience of travellers in Toronto. It is a critical issue included alongside housing affordability, productivity losses, and climate change in the City's 10-Year economic development strategy and a core issue for the Province.

Under this context, action is needed spanning multiple levels of government, the private sector, and the not-for-profit sector to better understand, manage, and address congestion and its impacts on wellbeing, prosperity, and quality of life in Toronto. The Toronto Region Board of Trade (TRBOT) commissioned this study to understand a focused – but crucial – component of the congestion problem: the impact of road closures on travellers, communities, and the economy.

This report summarizes the key findings of this study by exploring global approaches to managing road closures and outlines five paths forward to mitigate their impact and reduce Toronto's congestion. With the region growing by one million people every five years over the next 25 years, additional pressure on the region's transportation network can be expected.¹ Toronto is in a critical moment to reflect on its current practices to enable a more prosperous future.

REPORT STRUCTURE

- **Chapter 1 – Introduction** – an overview of the report and why this study was initiated
- **Chapter 2 – The Impacts of Road Closures** – a discussion on the types of road closures and their positive and negative impacts to travellers, communities, and the economy
- **Chapter 3 – Practice Scan** – a review of options to consider for how to decide on road closures, manage their impacts, collaborate to reduce impacts, improve their predictability, and work with travellers
- **Chapter 4 – Paths Forward** – an exploration of how to decide on road closures, manage their impacts, collaborate to reduce impacts, improve their predictability, and work with travellers
- **Chapter 5 – Next Steps** – an exploration of next steps and future direction for Toronto



1.2 Context: Toronto is among the world’s most congested cities

In 2023, Toronto’s traffic was ranked as the third worst out of nearly 400 global peer cities, with the average full-time commuter losing almost 100 hours to traffic.² Congestion is getting worse, with a 10-kilometre trip taking 29 minutes in 2023 – 50 seconds slower than the previous year.³

The Costs of Congestion Impacts the Economy, Travellers, and the Community at Large

\$11 Billion CAD ⁴	\$2,000 - \$4,000 CAD ⁵	\$110 CAD ⁵	150kg ⁵
In lost productivity and opportunity cost per year	Value of travel time lost to congestion for average commuter per year	Additional money spent on fuel by average commuter per year	Additional kilograms of CO2 emitted by average commuter per year

Torontonians are aware of this problem and adjust their day-to-day and long-term plans, per a 2024 poll⁶

53%	64%	42%
of respondents have contemplated moving away from the GTHA due to traffic and congestion issues	of respondents aged 18-34 are considering relocation	said that they avoid shopping, or going to entertainment or sports due to congestion

1.3 Causes of Congestion

Congestion is caused by several factors, including:

- A mismatch between population and employment and available road and transit capacity
- Road closures, due to activities like infrastructure rehabilitation, residential development, annual festivals, or unplanned events

This study is focused on road closures with an emphasis on identifying the wider impacts of closures and pragmatic approaches to mitigate negative impacts.

2 Road Closures: Types of Impacts

CHAPTER OVERVIEW

This chapter illustrates a typology of road closures and their potential positive and negative impacts. It includes two sections:

- **Types of Road Closures** – a discussion of different types of closures, inclusive of roadway and lane restrictions spanning infrastructure projects, real-estate development, and events – and how they drive short- and long-term costs and benefits.
- **Socioeconomic Impacts** – an exploration of the socioeconomic impacts of road closures to travellers, communities, and the economy.

2.1 Types of Road Closures

2.1.1 BACKGROUND

Road closures have a direct impact on road capacity, which in turn impacts how people travel across Toronto's multi-modal transportation network. Impacts span increased travel times, diversions increasing distance travelled and cost of travel, and decreased travel time reliability. However, closures can also carry benefits: closures for cultural or recreational events can spark economic activity and enable business growth, while closures for construction can allow new housing and transportation infrastructure to be delivered. This section explores the different types of closures that occur in Toronto and their wider impacts to understand:

- The situations in which closures occur and what their impacts are
- Examples where the benefits of closures could outweigh the direct costs to travellers, communities, and economies



2.1.2 ROAD CLOSURES IN TORONTO

Toronto is undergoing a major change: the city is home to North America’s largest transit expansion and intensive real-estate development. These projects span four subway lines, improvements to the GO Rail network, two LRTs, and the highest level of high-rise construction on the continent. In 2023, Toronto had almost 250 cranes in operation – more than New York, Boston, LA, Seattle, Washington D.C. and San Francisco combined.⁷

This construction – coupled with ongoing work to keep infrastructure in a state of good repair – has led to a significant amount of road closures across Toronto. On November 12th 2024, Toronto’s downtown core alone had 289 active closures.⁸

Planned closures fall into four categories as defined in Table 2.1.

Table 2.1: Categories of planned closures

Closure type	Timeframe	Examples
Infrastructure projects: including to repair roads, replace utilities and build new transportation infrastructure	Long-term: up to five years	Ontario Line or Gardiner Expressway repairs
Real-estate development: including residential, office, and retail projects	Medium-term: typically less than a year	Yonge and Eglinton construction hub has had a number of street closures, including Broadway / Broadview
Short-term road maintenance projects	Medium-term: less than 6 months	TTC Streetcar renewal on King Street West
Annual festivals, sporting events, and sidewalk patios	Short-term: several hours to several months	TIFF, CaféTO



CASE STUDY: THE IMPACT OF GARDINER EXPRESSWAY CLOSURES ON CONGESTION⁹

Construction on the Gardiner Expressway that started in April 2024 increased morning rush hour travel times by up to 250%. These projects do not just affect the street they take place on, but also create additional traffic on nearby streets as people need to reroute their trips. For example, the Gardiner rehabilitation project has led to a 43% increase in commercial congestion on Harbour, Lake Shore, and Cherry.⁹

In response, the City and the Province worked together to extension construction hours to 24/7 on the Gardiner, shaving a year off the expected project length.



2.2 Socioeconomic impact of closures

Road closures have a wide range of impacts, which can be divided into two types – Impacts to Travellers and Impacts to Communities. Combined, these impacts represent the socioeconomic cost of road closures.

1. **Impacts to Travellers** - reflects the benefits or disbenefits to travellers using the network where a road closure takes place (for example, travel time impacts)
2. **Impacts to Communities** - reflects the benefits or disbenefits to the overall society because of a road closure (for example, pollution as a result of congestion)

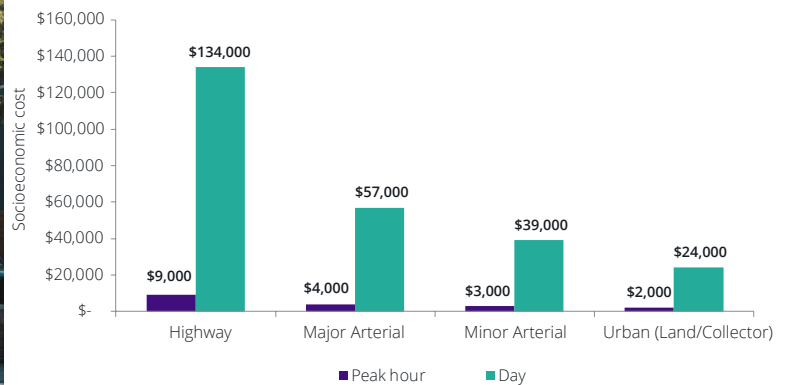


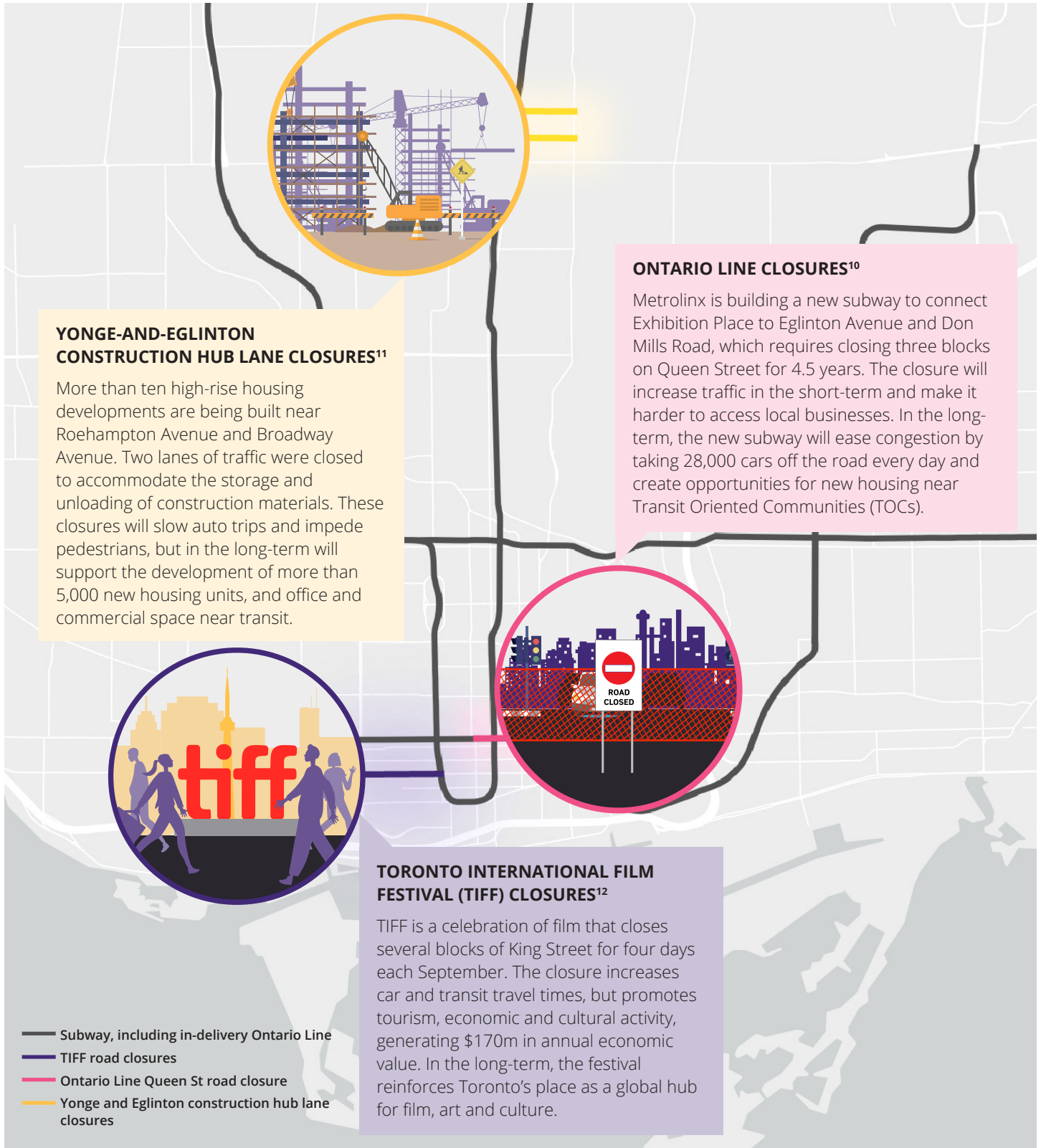
2.2.1 THE SHORT-TERM AND ENDURING IMPACT OF CLOSURES

These impacts occur both in the short-term – while the closure is occurring – and the long-term, when the benefits of the project are realized. The type of impacts, their magnitude, and when they occur depend on the type of closure.

Figure 2-1 shows the estimated socioeconomic costs of 1 lane closure for the different types of roads in Toronto for the peak hour and the entire day. Note that the estimated costs are general and do not take specific road conditions into account. These estimates show that a lane closure on a highway, which has very high traffic volumes and therefore greater network-wide impacts, has larger socioeconomic costs than a lane closure on a smaller local road. Notable closures on major arterial roads in Toronto include the Ontario Line Queen Street closure and TIFF, while notable closures on local roads include closures in the Yonge-and-Eglinton construction hub -- see next page for more detail. The total amount of time of the respective closures drives the difference in total costs. TIFF only last for a couple weeks whereas the Ontario Line closure on Queen Street will last for several years, so the latter will end up having much higher total costs.

Figure 2.1: Socioeconomic cost of closing a lane for 1km across different road types





2.2.2 MONETIZED IMPACTS OF ROAD CLOSURE METHODOLOGY

The total monetized impacts presented in Section 2.2.1 are broken down between impacts to travellers and impacts to communities.

Traveller impacts refer to the impacts that are incurred by the actual users of the road, including the drivers who are impacted by the road closure. These impacts are a sum of the following:

- User Travel Time Impacts
- Auto Operating Costs
- Increased Network Congestion

Impacts to communities refer to the wider impacts that road closure has on society. These impacts are a sum of the following:

- GHG Emissions
- Air Pollution
- Road Safety

A detailed description of the methodology used to calculate these impacts is provided in Table 2.2.

Table 2.2: Impact Methodology

Impact Category	Impact Name	Description	What is being measured	External Assumptions	Monetization Parameter ¹³
Impacts to Travellers	User Travel Time Impacts	Auto travel times are impacted when a traveller's path is either disrupted (example: reduced capacity on the road) or the path needs to change (example: a road is closed entirely)	Total increased minutes of travel time for existing and diverted road users	<ul style="list-style-type: none"> → Baseline assumptions on the low- and high-end additional delay time created from the road closure → Level of Service (LOS) of the road that is being impacted during the peak and off-peak periods 	Value of Time (VoT) for 2024: \$20.11/hour
	Auto Operating Costs	Auto operating costs may be increased due to road closure as drivers may need to divert their route and travel longer distances.	Unperceived auto operating costs are a measure of distance-based depreciation costs.	<ul style="list-style-type: none"> → Baseline assumptions on the low- and high-end additional VKT by road type 	Auto Operation Costs for 2024: \$0.06/VKT

ROAD CLOSURES: TYPES OF IMPACTS

Impact Category	Impact Name	Description	What is being measured	External Assumptions	Monetization Parameter ¹³
Impacts to Travellers	Increased Network Congestion	When the capacity of a road is reduced or closed entirely, traffic increases due to the reduced flow of the existing road or cars needing to reroute (if the road is closed entirely) causing increased traffic elsewhere.	The impact of increased road congestion in the network on road users.	→ Baseline assumptions on the low- and high-end additional VKT that diverted drivers travel, by road type	<ul style="list-style-type: none"> → Change in Congestion parameter, peak period (MX Business Case Guidance, Vol. 2): \$0.20 per VKT → Change in Congestion, off peak period (MX Business Case Guidance, Vol. 2): \$0.02 per VKT
	GHG Emissions	Changes in GHG emissions as a result of road closure come from changes in VKT that occur due to road network changes such as rerouting due to high levels of congestion or road closure	The external welfare impacts of increasing GHG emissions on global warming	→ Baseline assumptions on the low- and high-end additional VKT that diverted drivers travel, by road type	→ GHG Emissions Factor (MX Business Case Guidance, Vol. 2): \$0.0115 per VKT
Impact to Communities	Increased air pollution	Changes in air pollution as a result of road closure come from changes in VKT that occur due to road network changes such as rerouting due to high levels of congestion or road closure	The external welfare impact of poor air quality on the health of people living in the affected area	→ Baseline assumptions on the low- and high-end additional VKT that diverted drivers travel, by road type	→ Local Air Quality parameter (MX Business Case Guidance, Vol. 2): \$0.0023 per VKT

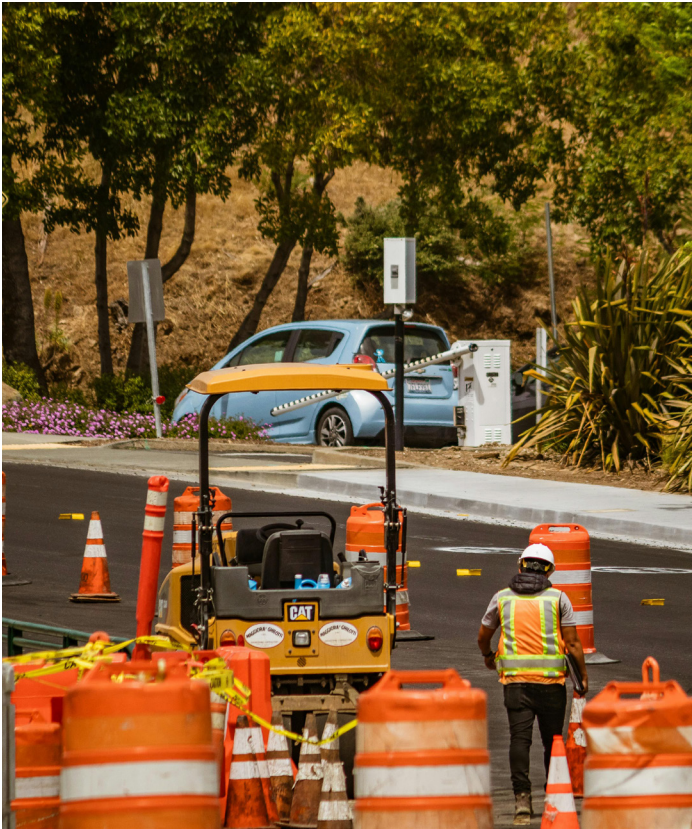
Impact Category	Impact Name	Description	What is being measured	External Assumptions	Monetization Parameter ¹³
Impact to Communities	Road Safety	The number of collisions is impacted when there are changes to the road network that result in increased congestion. Additionally, road closure could cause drivers confusion as the disruptions on their regular route may cause distraction.	<p>The monetized impact from changes in the number of collisions. This considers:</p> <ul style="list-style-type: none"> → Pain, grief and suffering → Lost economic output (due to death or injury and delay to other road users due to disruption) → Property damage → Medical costs → Police costs → Insurance administration → Legal and court costs 	→ Baseline assumptions on the low- and high-end additional VKT that diverted drivers travel, by road type	→ Road safety parameter: derived from property values (MX Business Case Guidance, Vol. 2): \$0.10/ VKT

3 Practice Scan: How cities tackle road closures

CHAPTER OVERVIEW

This chapter discusses how Toronto and its peers manage road closures. It consists of 3 sections:

- **Lessons learned from jurisdiction scan** – description of insights from a jurisdiction scan of 9 of Toronto's peers. These form the basis of the paths forward described in section 4.
- **Implications** – outline of five actions that categorize how cities respond to closures
- **Toronto Context** – description of how Toronto manages road closures across these



3.1 Lessons learned from Peer Jurisdiction Scan

A jurisdiction scan was conducted of 9 global cities to understand how Toronto's peers responded to challenges related to road closures. The purpose was to:

- Compare jurisdictions' approaches to regulating, managing, and pricing road closures.
- Develop benchmarks to contrast how road closures could be priced in Toronto to more accurately account for their economic costs.
- Highlight tools that Toronto could leverage to aid and incentivize private and public sector contractors to manage closures in ways that have a smaller impact on traffic.

The jurisdiction scan reviewed different cities' road closure policies across five key themes:

1. How are road closures permitted, restricted, and priced?
2. How do cities incentivize more efficient closures?
3. How do cities manage coordination between different public and private sector actors?
4. How do cities handle event-based closures?
5. How do cities communicate closures to the public?

Core findings from this jurisdiction scan are broken into two areas:

- Permitting, restrictions, and pricing
- Wider approaches to closure management

3.1.1 PEER JURISDICTIONS INCLUDED IN THE REVIEW

This scan reviewed 9 global cities' approaches to managing road closures. Cities were selected based on the similarity of their urban form to Toronto. Many of these cities have comparable population and job densities to Toronto, particularly downtown.

Table 3.1: Density statistics for peer jurisdictions

City	Area	Pop.	Pop. Density (people per km ²)	Jobs	Job density (jobs per km ²)	Government structure	World traffic ranking
Toronto	City	3,026,000	4,800	1,535,000	2,400	Province manages major roads, city manages everything else	3
	Metro area	6,472,000	1,100	3,781,000	600		
London	City	3,404,000	10,600	2,028,000	6,400	City transit authority manages major roads, boroughs manage everything else	1
	Metro area	8,777,000	7,500	4,778,000	4,100		
New York	City	8,804,000	11,314	4,772,000	6,134	City, state, multi-state, and transit agencies manage roads, bridges, tunnels	20
	Metro area	19,498,000	908	10,326,000	854		
Sydney	City	5,450,000	441	2,989,000	242	State manages major roads, city manages everything else	47
Chicago	City	2,746,000	4,655	1,306,000	2,214	State manages major roads, city manages everything else	128
	Metro area	9,442,000	342	4,798,000	171		
Melbourne	City	5,207,000	521	2,445,000	245	State manages major roads, city manages everything else	43
Vancouver	City	662,000	5,759	352,000	3,059	Province and transit authority manage major roads, city manages everything else	32
	Metro area	2,643,000	918	1,568,000	1,708		
Montreal	City	1,763,000	4,828	860,000	2,356	Province manages major roads, city manages everything else	103
	Metro area	4,292,000	919	2,339,000	508		
Singapore	City	940,000	7,100	444,000	3,335	State land transport authority manages roads	170
	Metro area	5,918,000	7,800	2,208,000	3,000		
San Diego	City	1,381,000	1,432	847,000	878	State manages major roads, county does everything else	385
	Metro area	3,276,000	279	1,516,000	129		

3.1.2 PERMITTING, RESTRICTIONS, AND PRICING

The approaches used to manage road closures in peer jurisdictions can be generalized into three mechanisms, as shown in Table 3.2.

Table 3.2: Mechanisms for managing road closures

Mechanism	Summary	Purpose	Key cities
Restrictions	Preventing non-emergency closures in certain contexts	Minimizes number of closures during peak times, or where construction has recently occurred	New York, Chicago, Singapore
Permitting	Requiring contractors to submit planning documentation when applying to close a road	Forces contractors to plan how they will mitigate traffic, diversions, and delivery of construction supplies	Melbourne, Sydney, London
Pricing	Charging high prices for closing roads, and varying these based on time or road type	Creates a financial incentive for contractors to limit the length and extent of closures	London, Singapore, Sydney

Cities may use one or more of these three mechanisms to manage road closures and their negative impacts. For example, New York has lighter permitting requirements but significant restrictions on daytime closures. Alternatively, Australian cities allow daytime closures but require significant upfront planning to reduce their impact.

Restrictions

Restrictions prevent non-emergency construction/event road closures either generally or in specific circumstances. Restrictions can be:

- Seasonal, for example New York prevents closures around winter holidays.
- Time-of-day, for example Chicago and Singapore ban road closures on major roads during peak times, New York rarely grants closures on commercial streets during the day.
- Context-dependent, for example New York bans road digs on streets resurfaced in the last 5 years.

Road closure permitting

Permitting includes all formal processes to close either all or a portion of a roadway at the request of a third party. Approaches used in peer cities have been divided into two categories:

- Light-touch permitting - only requires contractors to indicate the closure’s location, extent (i.e., full or partial), dates, and rationale.
- Involved permitting – requirements help account for economic costs of closures by requiring the contractor to invest in plans that should lower the safety and congestion impacts of construction. This could include a traffic management plan, which explains needed diversions and mechanisms (such as signs, traffic controllers, lighting) to ensure safety. It could also include a construction logistics plan, explaining how materials and equipment will arrive/ exit and be unloaded/loaded. Typically, a description of consultation with relevant agencies (public transit operators, police) is also required.

Cities charge one-time fees to cover the overhead cost of reviewing permit applications. These tend to increase in cities with higher permitting standards.

Pricing

Cities also manage road closures by charging hourly, daily or monthly road closure fees as part of the permitting process. These prices vary based on street importance and road space taken up.

VARYING FEES BASED ON STREET IMPORTANCE

Most cities charge different rates to close a street based on its importance to the network. This can be achieved by varying closure pricing based on the street's location or classification.

- Location-based pricing is employed in Toronto and Singapore, where streets located downtown cost twice as much to close as streets located in residential areas.
- Elsewhere, fees increase based on how the street is classified. This could be based on the street's capacity, or if it has any dedicated cycling infrastructure. In London and Sydney, the fees double for major streets.

VARYING FEES BASED ON SPACE OCCUPIED BY CLOSURE

All cities in the jurisdiction scan vary fees based on how much road space is occupied by a project, but cities use two main approaches to do so.

- Size-varying: In Toronto and Singapore, fees vary based on project size. Singapore's fees are charged based on the length of the project in linear metres, while Toronto calculates fees based on the area in square metres that are occupied.
- Flat rate: In London, Sydney, and Melbourne, fees are charged per lane occupied, per block.

In the former approach, a project that takes up one lane for 40 metres would be charged double the fee of a project that takes up one lane for 20 metres.

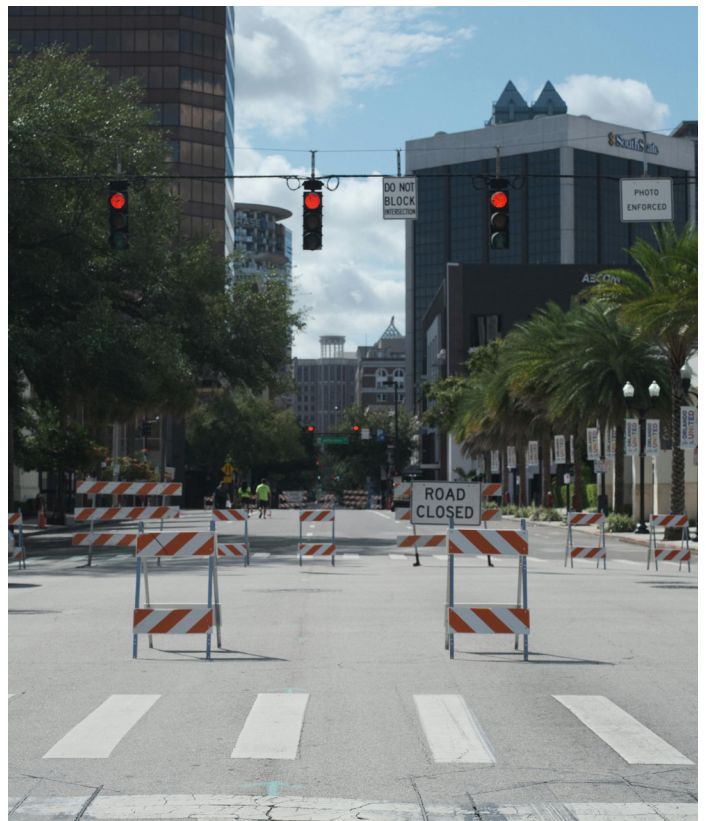


SHOULD ROAD CLOSURE PRICING DIFFER BASED ON THE TYPE OF STREET THAT IS BEING CLOSED?

Most cities charge different rates to close a street based on its importance to the network. This can be achieved by varying closure pricing based on the street's location or classification.

Location-based pricing is employed in Chicago, where streets located downtown cost twice as much to close as streets located in residential areas.

Elsewhere, fees increase based on how the street is classified. This could be based on the street's capacity, or if it has any dedicated cycling infrastructure. In London and Sydney, the fees double for major streets.



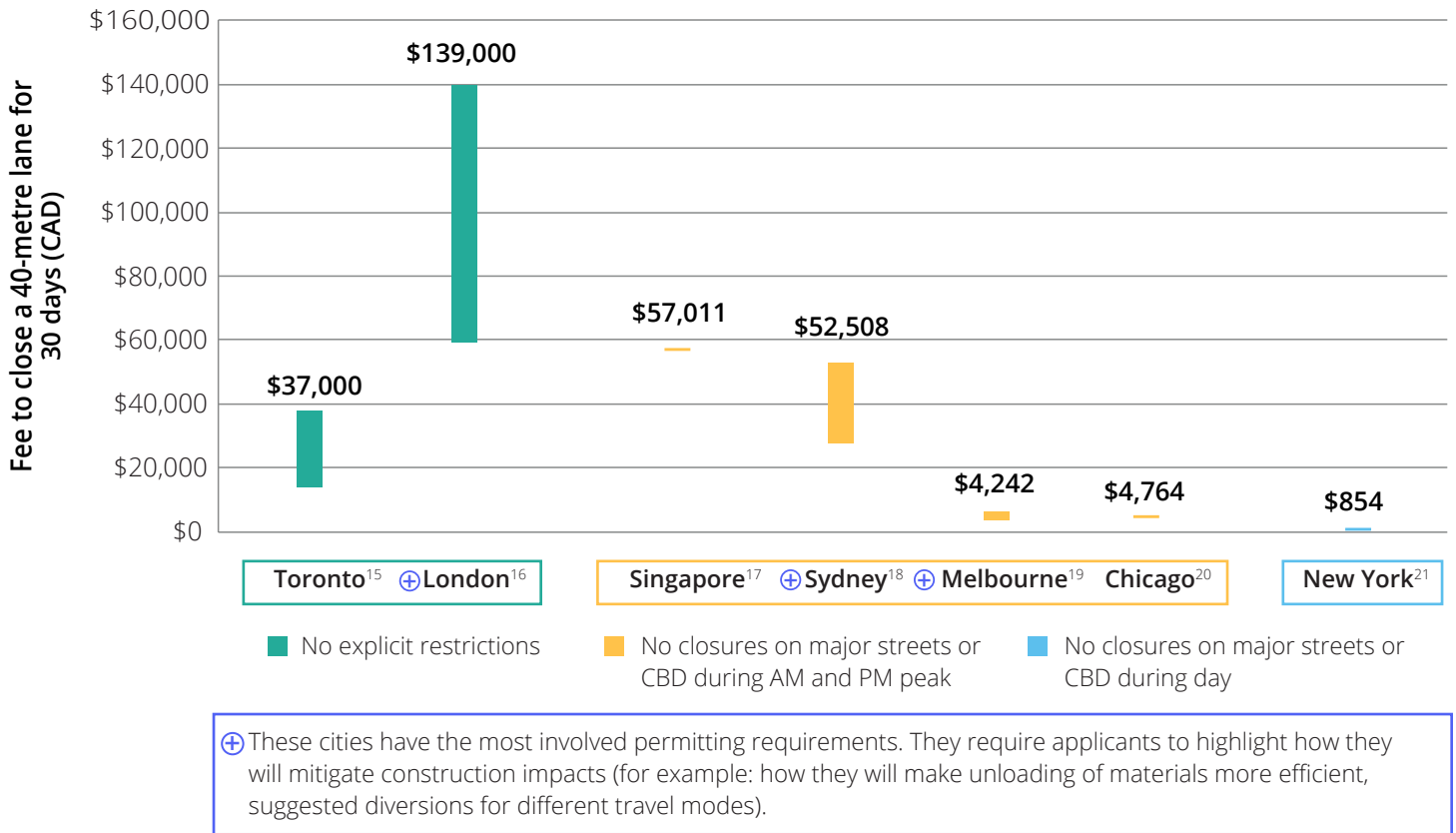
Restrictions and Fees – Balance Struck by Peer Jurisdiction

A core insight from this analysis is how cities use rules, regulations and pricing to mitigate impacts of road closures. Figure 3.1 compares different jurisdictions based on the fees they charge, and how restrictive they are of road or lane closures. Fees are calculated assuming the project needs to close a lane that is 40 metres long by 3.3 metres wide for 30 days. This length is a common length of a real-estate development closure¹⁴, while the width is a common lane width for a downtown street. Projects that are longer in distance would be charged higher rates in cities that charge based on closure distance/area (like Singapore and Toronto), but would be charged the same

in flat rate cities (assuming they only covered a single city block). Fees include one-time permitting costs and recurring costs that are charged based on how long the project lasts. For cities that differentiated between high-cost and low-cost areas, a range is shown (for example: Toronto’s fees are calculated for a closure in the highest cost area – Area AA Construction Hub – and a lower cost area – Area D). Costs include relevant taxes (for example: HST). Toronto has a road occupancy permitting process and charges a monthly fee, but neither is as ‘elevated’ as the approaches used by its peers, which either charge higher fees or have more restrictions. Toronto’s approach is further described in Section 3.3.



Figure 3.1: Fees across different jurisdictions



The graph suggests that international jurisdictions are following two general approaches to manage closures. Some cities, like London and Sydney, have very high fees and elevated permitting requirements. Others, like Chicago and New York have low fees but stringent restrictions that limit the number of day-time closures on major streets.

Toronto has a road occupancy permitting process and charges a monthly fee, but neither lever is as forceful as its peers' approaches. It may be that neither Toronto's restrictions nor prices are tough enough to prevent congestion-creating closures from happening.

Toronto's approach is further described in Section 3.3.

3.1.3 OTHER APPROACHES TO LIMIT ROAD CLOSURE IMPACTS

Beyond the actual level that pricing is set, cities also manage closures via incentives, coordination, event-specific policies, and public engagement.

Incentives

Incentives reduce construction impacts by creating a financial reason for contractors to complete closures more rapidly. These include:

- **Dynamic pricing:** rebates to contractors who close roads during off-peak times; additional charges for projects that take longer than a set amount of time (for example: longer than 3 days).
- **Non-daily pricing:** charging road closures in increments that are less than a day (for example: by the hour). Tighter pricing periods reward contractors who can complete work in half a day or less.
- **Preferred rates:** rewarding contractors with good compliance, safety, and efficiency records with lower rates.

These tools can help align fees with the impact of the mitigation, to help push closures to times when they will cause less congestion.

Coordination

Cities are working to increase coordination between contractors from different private and public-sector organizations that would seek to conduct work on the same road over the medium-term. Opportunities for collaboration include:

- **Trench sharing:** contractors from different organizations work on the same stretch of road simultaneously, ensuring that the road only needs to be dug up once.
- **Signal sharing:** contractors work on adjoining stretches of road so that only one set of traffic controls/signage needs to be used.
- **Timing alignment:** two contractors work on the same stretch, one after another. Traffic controls only need to be deployed once, and public perception improves because it does not seem that street is being closed and reopened multiple times.

Cities can passively increase coordination using financial incentives or actively increase it by directly scheduling road closures to force different parties to work together. They can also invest in platforms or technologies that make it easier for different parties to identify opportunities for collaboration, including Digital Twins.



DIGITAL TWINS ARE A PROMISING TECHNOLOGY THAT COULD OPEN UP OPPORTUNITIES FOR COLLABORATION²²

Several cities are enabling collaboration by investing in Digital Twins – digital models of existing and planned assets, including underground utilities. These provide greater visibility into where specific assets are located, and when they need to be replaced. Digital Twins make it easier to coordinate utility relocation and upgrades, which may allow multiple utilities to complete upgrades via a single road dig – maximizing the utility from having a road closed.

Ontario is piloting Digital Twins on a number of major infrastructure projects, including the Eglinton Crosstown West Extension.



Special rules for events

Processes for special events are often handled by a city/s dedicated event management office. This office ensures that event applicants:

- Coordinate with the appropriate government agencies, including transportation, police services, and food/alcohol licensing.
- Develop a traffic management plan, which explains required diversions and how these will be communicated to road users.
- (Select cities only): submit a transportation demand management plan, which explains how attendees will travel to the event and what stress will be placed on public transit.

Communication

Sharing road closure information helps contractors coordinate, allows travelers to change their behaviour, and makes it easier for the public to share feedback. Cities engage the public on ongoing and planned road closures via their own platforms and requirements for contractors.

Table 3.3: Ways to communicate road closures with the public

Tool	Summary	Responsible party	Detail
Closure maps	Interactive maps on city websites that highlight ongoing and planned closures.	City	<ul style="list-style-type: none"> → Allow users to filter between different types of closures, and click on different projects to see the start and end dates, copies of permits, and the contractors completing the work → Allow users to request to be notified via email for any activities occurring in their area.
Weekly newsletters	Written or audio summaries of upcoming road closures.	City	<ul style="list-style-type: none"> → Alert residents via email, traditional media, and social media channels.
Signage at construction sites	Signs that describe basic information about the closure.	Contractor	<ul style="list-style-type: none"> → Alert impacted road users about closure timing and site supervisor contact information → Provide mechanism for receiving feedback.
Public engagement	Closure-specific campaigns to reach out to stakeholders to consult them on closures.	Contractor	<ul style="list-style-type: none"> → Newsletters distributed to local residents → Public forums or community liaison committees for major projects.
Transportation demand management	Information campaigns that help people change travel habits.	Contractor / City	<ul style="list-style-type: none"> → Inward facing: ensuring a certain percentage of construction workers are commuting to work via non-car-based modes. → Public facing: information or incentives that help road users change when they travel, what routes they use, and what modes they use.

Summary

Table 3.4 provides a summary of the wider tools used by peer jurisdictions to manage congestion and costs related to road closures.

Table 3.4: Detail on policies the 9 jurisdictions use to incentivize and coordinate construction-related closures, manage events, and communicate with the public

City	Incentives	Coordination	Events	Communication
Singapore ²³	<p>Fees are charged in hourly increments and are 50% lower for work occurring between 11PM and 6AM or on holidays. Road work is banned during peak times.</p> <p>Road openings on newly resurfaced or reconstructed roads for 1-2 years after opening.</p>	<p>Road Opening Coordination Committee coordinates utility works to reduce number of street excavations.</p>	<p>Permit applications require:</p> <ul style="list-style-type: none"> → Details on event purpose → Stakeholders engaged (police, land transport authority, local groups) → Schematic of what roads will be closed and where diversions will occur. 	<p>Website lists all ongoing roadworks, expected completion dates, and contact information.</p>
London ²⁴	<p>Fees reduced/waived for work that happens outside of peak times.</p> <p>Fees reduced for contractors with strong track records. Metrics assessed include clear planning, consistent safe working, compliance with permit conditions, high quality reinstatement of highway, and minimisation of disruption to road users.</p>	<p>TfL requires 3 months notice for permitting, giving it more time to coordinate different groups' work.</p> <p>Significant discounts on road charges are given for collaborative work</p>	<p>Road closures require:</p> <ul style="list-style-type: none"> → Temporary traffic order and qualified traffic stewards to control traffic → Traffic Management Plan to indicate what diversions and signage will help ensure safety of event. <p>Events closures during weekdays are rarely allowed.</p> <p>For major events, TfL's Travel Demand Management communicates crowding and congestion information and updates transit capacity to accommodate demand.</p>	<p>Interactive website visualizes all current and upcoming works.</p> <p>Closures are summarized on TfL's website; social media and print media; and on radio and TV broadcasts.</p>

City	Incentives	Coordination	Events	Communication
Sydney ²⁵	Fees are charged in 4-hour increments.	N/A	<p>Special events are managed by Transport for NSW. Events are categorized into four separate ‘classes’ based on complexity.</p> <p>More complex events require a transport management plan that explains what diversions and equipment are needed to manage the safety and congestion.</p> <p>Where the event itself will create increased travel demand, Sydney local traffic committee will review the application and set conditions for the event, including notifying residents, maintaining an emergency vehicle lane, and coordinating with transit authority</p>	<p>Builders are encouraged to distribute newsletters with construction updates.</p> <p>For very large developments, community liaison committees need to be set up to get ongoing feedback from the public.</p>
Montreal ²⁶	Signs closing the road cannot go up more than 24 hours prior to construction beginning, and the site must be returned to the city 24 hours after the completion of work. If no work occurs for five consecutive days without action, the city may remove worksites.	AGIR platform ²⁷ centralizes all current and future construction data in single location (under development).	Street closure application requires installation plan, and preliminary route.	<p>Interactive website visualizes all current and upcoming works.</p> <p>Easy to use system allows users to sign-up for road closure notifications in their neighbourhood.</p>

City	Incentives	Coordination	Events	Communication
Vancouver ²⁸	Work completed in 3 days or less on local streets does not incur fees.	PlanIt software used by city and contractors helps plan and coordinate street use conflicts	Permit complexity ranges based on how many street closures are required, whether structures are built, and whether liquor/ food service is included. Large events require traffic management plan, transportation demand management plan, and neighbourhood impact/ public engagement plan.	Interactive closures map highlights today's impacts, tomorrow's impacts, and this weekend's impacts. Major public projects have dedicated websites with details about duration, work hours, access to schools, and contact info.
Melbourne ²⁹	N/A	N/A	Event requirements are handled on case-by-case basis, but major events need a traffic management plan to indicate how diversions are being managed and indicated. Fees may be waived for charitable organizations.	Contractors must include public engagement plan in permit application and consult/notify all stakeholders at least 10 days before closure.
Chicago ³⁰	Daily rate increases on projects that require a closure for longer than 3 days.	Dedicated Project Coordination Office works directly with utilities and builders to ensure that two parties do not work on the same block 6 months apart.	Only public festivals and athletics events are permitted on right of way; marketing activations are not permitted. Events are discouraged during major weekends. Application fees rise based on proximity to event date.	Interactive website where users can filter between different types of closures; see start and end dates, copies of permits, and the contractors completing the work; and request to be notified via email for any activities occurring in their area.

City	Incentives	Coordination	Events	Communication
New York ³¹	<p>Higher prices or permit restrictions for work on streets resurfaced in last 5 years.</p> <p>Permits allowing closures on main streets during the day are generally only given for emergency work or work on residential streets.</p>	<p>Office of Construction Management and Coordination holds monthly coordination meetings and encourages contractors to share short- and long-term capital plans.</p> <p>Platform logs planned closures to allow parties to identify coordination opportunities.</p>	<p>Events are handled by Citywide Event Coordination and Management (CECM). Regulations, prices, and lead times vary based on:</p> <ul style="list-style-type: none"> → Event's size → Impact on the surrounding community and vehicular and/or pedestrian traffic → Degree of coordination required between the CECM, the police department, and the DOT 	<p>Interactive website with project information. NYC DOT also sends weekly traffic advisory newsletters.</p> <p>Signage and contact information are required at project sites explaining relevant details.</p> <p>Public forums required for closures that last >180 days.</p>
San Diego ³²	<p>Initial permit lasts 3-weeks, and the county offers weekly extensions at a higher rate.</p>	N/A	<p>Permit required if public road is closed, or if organizer needs support from county traffic control staff or needs to rent traffic control signage, bollards or other infrastructure.</p> <p>Additional fee required for renting traffic control infrastructure.</p>	<p>Significant TDM program focused on mitigating major highway construction by sharing information about closures, alternative modes, and incentives for not taking single occupancy vehicles.</p>

3.2 Implications of Jurisdiction Scan

Global policy responses to mitigate the impacts of road closures can be grouped into five actions that span the entire closure lifecycle. These actions range from more conceptual – how cities make decisions on road closures their role in the city – to more concrete – how cities communicate with travelers to manage impacts.

Table 3.5: Actions that can be taken to reduce the impacts of closures

Action	Allowing road closures		Mitigating the impacts of closures		
	Making decisions on road closures	Regulating where and when road closures are allowed	Collaborating on road closure planning and execution	Managing closures to reduce risks and unpredictability	Communicating with travellers to manage impacts
Role in reducing the impacts of closures	<p>Decision making processes consider the benefits, costs, risks and trade-off of a closure before allowing it.</p> <p>This action ensures that road closures are clearly understood and well-reasoned before using them.</p>	<p>Regulations shape the locations in the city a closure is allowed and the times of day it can occur.</p> <p>This action ensures road closures are used tactically and core negative impacts are mitigated prior to their inception.</p>	<p>Road closures may be caused by a combination of public sector, private sector, and not-for-profit sector activities.</p> <p>This action focuses on how all parties involved in and impacted by a road closure collaborate to manage any negative impacts and/or realize positive benefits.</p>	<p>Once a closure occurs, it needs to be proactively managed to ensure its impacts are contained within an agreed upon timescale.</p> <p>This action ensures that closures have predictable durations/ timescales.</p>	<p>Some impacts can be mitigated by optimizing how people travel through the city.</p> <p>This action focuses on ways to engage travellers and help them find effective travel routes and options to lessen the congestion caused by closures.</p>
Key questions	<p>What factors should be considered when allowing or not allowing a closure?</p>	<p>Should cities allow closures during peak times?</p> <p>Should construction occur overnight?</p>	<p>What opportunities for collaboration exist to minimize risk that one road is closed multiple times?</p>	<p>What incentives and disincentives can reduce the planned duration of closures and mitigate the risk they extend?</p>	<p>How can we enforce road rules and encourage users to avoid congestion?</p>

3.3 Toronto Context

This section reviews how the City of Toronto and Metrolinx are tackling road closures across these five actions – from charging fees, encouraging collaboration between public and private entities, and communicating with travelers. These policies are then compared with promising practices identified in the jurisdiction scan to identify gaps.



ROAD CLOSURE PERMITTING PROCESS IN TORONTO

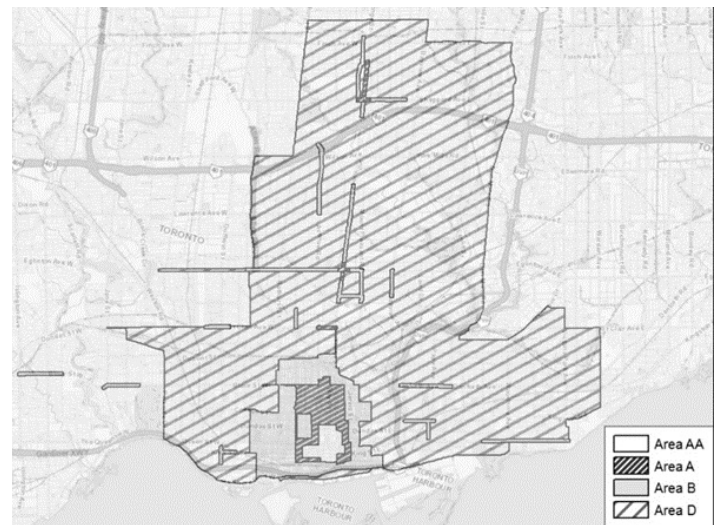
To close a lane or road in Toronto, applicants must first acquire a street occupation permit (construction) or street closure permit (event). To receive this, applicants must provide a description of the closure, including the a site plan, the duration of the closure, a proposed work schedule, and the rationale for why a closure is necessary.³³ If the City approves the request, the applicant must submit a Road Disruption Activity Reporting System (RoDARS) notification to TMC Dispatch at least two business days before the start of the occupation (at least seven business days for a City expressway) as well as a Traffic Management Plan, if appropriate, which details the impacts to all modes resulting from construction and identification of mitigation measures. The appropriate Work Zone Traffic Coordinator will approve the closure and update the Traffic Restrictions Map.³³

3.3.1 ACTION 1: MAKING DECISIONS ON ROAD CLOSURES

A principal way the City makes decisions on road closures is by charging fees to contractors hoping to occupy roads. These are charged based on the area of the closure (in square metres), and the location in the city. As Figure 3.2 shows, the City has split Toronto into 6 areas – the price charged per square metre varies based on which area the closure is located in, from \$187.21 per month to \$38.55 (not including HST).³⁴ These fees are based on “on-street metered parking [...] as the proxy for determining a square metre market rate for temporary use of space on the roadway.”³⁵

This fee increases by 25% if the closure occurs in one of the city’s nine construction hubs. Together, these two initiatives recoup the overhead cost required to manage closures and also some of the market price for temporarily occupying the right of way.

Figure 3.2: Map of Toronto’s construction areas used to set pricing

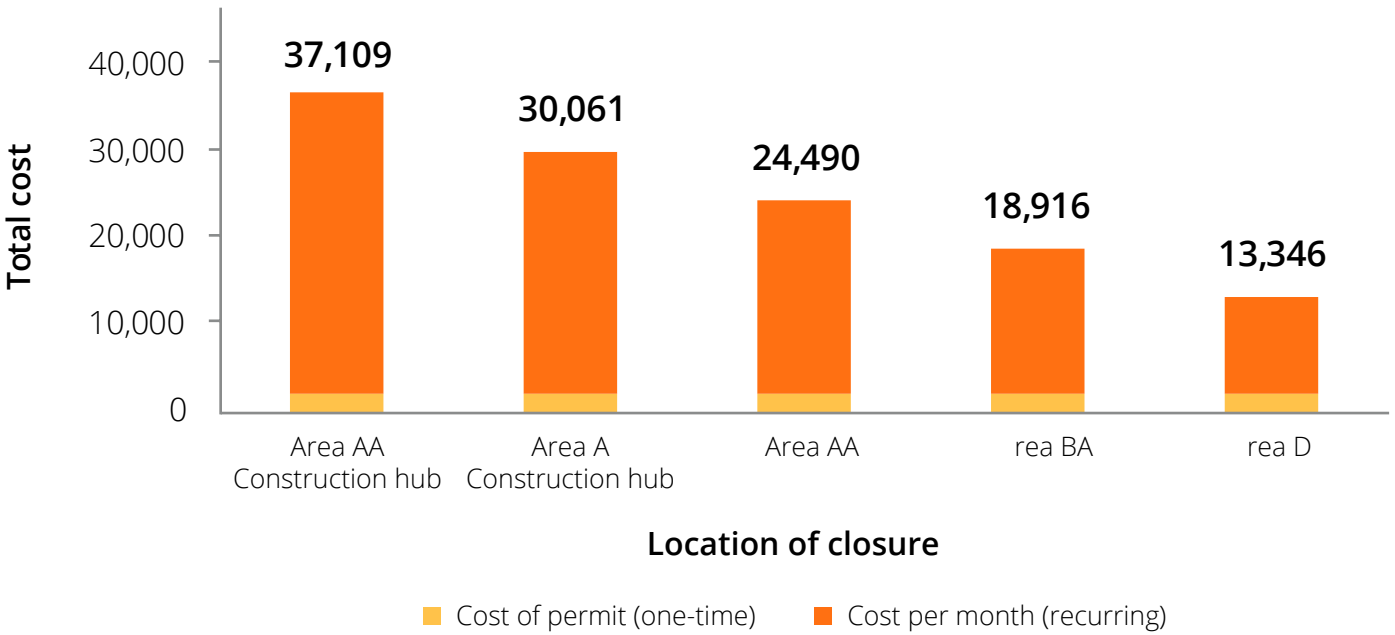


b Prices do not include HST

On top of these recurring fees, the city charges a one-time fee to process a permit application, which varies based on the length (in metres) of a project. Together, these represent the fees that contractors will need to pay the City to temporarily occupy a street. Figure 3.3 combines these fees to show the monthly cost to close a 40-metre stretch of road in different parts of the city. 40-metres is used as it is the average length of a real-estate development closure.³⁶

In its September 2024 update, the City indicated it was studying options to charge additional fees for road closures.³⁶ It has launched an RFP to build a digital model of the city, which would allow it to better model the effects of closures. The predicted congestion of a closure could be used to set the fee charged for a road closure.

Figure 3.3: Monthly cost to close a lane for a 40 metre-long project based on which area of the city it is – for additional months, permit cost is not charged³⁷



3.3.2 ACTION 2: REGULATING, WHERE AND WHEN ROAD CLOSURES ARE ALLOWED

In its latest congestion management update, the City discussed two efforts to reduce peak hour closures. To reduce the length of time a closure lasts, the City is expanding work hours on select public projects and is reviewing planned projects to identify opportunities. This allows work to continue beyond regular 7AM-7PM work hours, up to 24/7. The city has not yet defined public criteria for which types of projects would be selected. To incentivize developers to close roads during off-peak times, the City is designing a new congestion management levy that would increase costs for peak hour closures.

To prevent excavations on newly resurfaced roads, the city manages a moratorium that prevents non-emergency utility work on roads that have been resurfaced in the past five years. This reduces the risk that repeat closures will occur on the same stretch of road and helps maintain the quality of newly resurfaced roads.³⁸



INCREASING CONSTRUCTION TIMELINES ON GARDINER EXPRESSWAY CONSTRUCTION REDUCED THE EXPECTED COMPLETION DATE BY 1 YEAR³⁹

In July, the Ontario government helped speed up construction timelines on the Gardiner Expressway by providing up to \$73M in funding to enable work to continue 24 hours a day, seven days a week, with multiple shifts per day. The work will accelerate the expected construction completion date from April 2027 to at least April 2026. This is expected to create \$273M in benefits, by creating travel time savings for drivers and goods – a good example of where understanding the costs of road closures can help policymakers make informed decisions about when to invest in construction resources to mitigate road closure impacts.

3.3.3 ACTION 3: COLLABORATING ON ROAD CLOSURE PLANNING AND EXECUTION

The City manages the T.O.INview web application, an interactive map allows contractors to view existing and planned infrastructure and development projects that will temporarily reduce road capacity. This site includes details such as project type, dates, contact person, and owner. The site allows different entities to identify opportunities where collaborative work is possible.

The City launched the Strategic Capital Coordination Office (SCCO) in 2024, which oversees coordination efforts between public agencies and private sector partners for municipal infrastructure projects that impact rights of way. This includes maintaining a coordinated capital plan for the next 3-5 years of the relevant public and private work that will occur for each construction year. These efforts can help improve the efficiency and sequencing of public construction, reducing closure lengths and reducing the risk that a road must be closed multiple times. Beyond the SCCO, the City actively works with major Toronto builder associations to share innovative construction methodologies and identify opportunities to accelerate projects or reduce time builders occupy right-of-way.

3.3.4 ACTION 4: MANAGING CLOSURES TO REDUCE RISKS AND UNPREDICTABILITY

Both the City and Metrolinx are experimenting with charging fees for excessively long closures, to reduce the risk that closures extend indefinitely. The City's planned construction management levy may introduce an escalation mechanism whereby fees increase once a closure lasts longer than a set number of days or months.⁴⁰ Metrolinx's Mobility Matters tracks lane closures related to transit infrastructure projects and works with its contracting partners to identify issues early and resolve excessive disruptions.⁴¹ If closures persist, the economic cost of excessive disruptions is charged to the builder. This incentivizes builders to reduce unnecessary closures, particularly on lanes that carry more vehicles or transit riders.

3.3.5 ACTION 5: COMMUNICATING WITH TRAVELLERS TO MANAGE IMPACTS

The city is also working to reduce congestion by getting road users to follow traffic bylaws and vary when and how they travel. The city maintains a Road Restrictions website⁴² which displays an up-to-date map of all existing closures that are in-flight or permitted to begin in the next two weeks. This view also provides details on closures, including severity, hours in place, and start and end dates. It also supports the Smart Commute program, a travel demand management platform that provides information and incentives to employers and commuters to increase use of sustainable transportation modes.

3.3.6 GAPS BETWEEN TORONTO'S POLICY AND INTERNATIONAL JURISDICTIONS

Several key gaps between Toronto's policy and international jurisdictions' were identified. These practices are expanded on in the following chapter, which outlines potential paths forward on road closure management.

Table 3.6: Lesson learned from jurisdiction scan across the five actions

Action	Gaps between Toronto's practice and emerging international practices	Key cities
Making decisions on road closures	→ Closures fees increase when they occur on streets/pinch points that would cause the highest level of disruption*	London, Sydney, Melbourne
Regulating where and when road closures are allowed	<ul style="list-style-type: none"> → Closures are restricted at certain times/places, such as on arterial streets during peak times → Overnight construction work is the norm → Steep discounts for closures conducted overnight or on Sundays/holidays* 	New York, Singapore, Melbourne, London
Collaborating on road closure planning and execution	<ul style="list-style-type: none"> → Dedicated offices responsible for coordinating when closures occur, facilitating information sharing between private/public actors** → Discounts for collaborative projects 	New York, Chicago, London
Managing closures to reduce risks and unpredictability	<ul style="list-style-type: none"> → Daily fees increase for longer closures* → Audits ensure actual lane closure aligns with what was permitted → Permit requirements increase for high impact closures 	Chicago, Montreal
Communicating with travellers to manage impacts	→ Dedicated Transportation Demand Management program to alert public about major closures and how to avoid them	San Diego

*Similar program under review by City of Toronto, per latest construction management update;

**Office overseeing City construction (SCCO) created last year

4 Potential Paths Forward

CHAPTER OVERVIEW

This chapter describes five paths forward that respond to each of the actions discussed in the previous section. The chapter consists of 6 sections:

- **4.1 Overview of paths forward** – a summary of these opportunities
- **4.2 - 4.6** – deep-dives on each path forward, including:
 - Why it is necessary
 - Specific proposals to move forward, including benefits and what needs to be in place
 - Potential challenges

4.1 Overview of paths forward

Road closures are anticipated to play a part in infrastructure and real-estate development into Toronto's future– whether it is to deliver a new subway, conduct an emergency repair of a watermain, or conduct a foundation concrete pour for a new residential complex. This study identified a range of practices or 'paths forward' for consideration.

These actions can help:



Reduce the number of closures, especially during peak times.



Make closures more predictable in duration and impact.



Enable road users to make better choices to avoid congestion.

Five paths forward have been identified for further consideration in the Toronto context to achieve these outcomes:

1. New Ways to Make Decisions: Integrating Wider Impacts and Outcomes of Closures into Decisions Explicitly
2. New Regulations: Changing Where/When Road Closures Are Allowed
3. New Approaches to Collaborate: Planning and Delivering Closures to Mitigate Impacts
4. New Incentives and Management Approaches: Keeping Road Closures Within Agreed Timeframes
5. New Ways to Engage: Bringing Travellers into Impact



4.2 Path Forward 1 - New Ways to Make Decisions: Integrating Wider Impacts and Outcomes of Closures into Decisions Explicitly

Management

Toronto's road closure policy focuses on the space that a closure will take up, the part of the city that it is in, and whether the site is located within a construction hub. While the City does vary prices based on where closures occur, the mechanism it uses is based on the price of parking meters on that street.⁴³ This does not fully capture the socioeconomic cost of closing a road.

There is an opportunity for policies to consider the broader socioeconomic costs or benefits of a specific project. This would modify today's approach where closures are treated equally even if they have drastically different impacts on traffic or if they have differing long-term benefits.

Basing fees and permitting requirements not just on how much space a closure takes up, but on its impact on congestion and the wider economy would align closure policy with closure socioeconomic costs and benefits.

4.2.1 PATH FORWARD 1.1 - EXAMINE OUTCOME-BASED PRICING THAT VARIES BASED ON THE SOCIOECONOMIC COSTS AND BENEFITS OF A PROJECT, INCLUDING ITS EFFECT ON CONGESTION

What is proposed?

There is an opportunity to adjust pricing to account for the outcomes of specific road closures. This means accounting for not just the road space occupied by a particular project, but also its short-term impacts on congestion, nearby quality of life, and productivity; and



STRIKING A BALANCE: ALIGNING FEES WITH SOCIO-ECONOMIC COSTS OF CLOSURES

Impacts to travelers and communities from costs of closures can exceed \$4,000 per hour (per Steer analysis – see section 2) for a major arterial. This is a significant increase from today's pricing regime.

This path forward does not recommend setting the price of a closure to the full socio-economic costs, but rather proposes embedding these costs into the decision-making process. The wider costs of closures should be considered against the social value unlocked by a project. In situations where there are high social impacts, decision-makers could consider whether to allow a closure or encourage other approaches to construction, or deploy higher fees than today to encourage shorter closures to mitigate impacts.

Knowing the socioeconomic costs and benefits of closing a road can help increase intentionality about what road closures to permit and how impacts should be mitigated. This can help it decision making about where and when to allow closures. It could also lead to varying the price and permitting requirements based on the scale of impact on the transportation network and the broader society and economy.



any long-term economic benefits produced by the project.

What are the potential benefits?

The potential benefits of this action include:

- Greater insight when making decision on closures – including whether or not the value of the closure (for example: construction savings or longer term benefits from housing or infrastructure) justifies the shorter term impacts to travelers and the community.
- Opportunities to use the costs of road closures to drive efficiency and innovation in the projects that require a closure.

Outcome-based pricing is not about raising the level of all road closure fees, but rather about tailoring them so that the most impactful closures pay the highest price.

What needs to be in place?

To price and permit road closures based on their socioeconomic costs and benefits, a standardized approach for calculating these is needed. This could be similar to Metrolinx's Business Case Guidance, which uses a standard set of parameters and methodologies for calculating different benefits to allow for a consistent way to evaluate different projects.⁴⁴

A key socioeconomic impact could be the congestion created – Toronto would need to be able to predict how different closures would affect traffic. The City announced in September 2024 that it will be developing a 'digital twin'⁴⁵ traffic simulation model that uses live traffic data and artificial intelligence to more accurately predict traffic outcomes from road closures. This investment mirrors progress made in other cities, such as London, where Transport for London and National Highways have invested in Digital Roads to predict how traffic incidents

and road closures would impact congestion.⁴⁶

4.2.2 POTENTIAL CHALLENGES OF OUTCOME-BASED PRICING AND PERMITTING

Moving to an outcome-based model risks creating uncertainty in construction costs and timelines, because the costs are dependent on project impacts, not just the area it takes up. City staff time to manage these programs might increase, because they might need to spend more time reviewing permit applications. To ensure the benefits of outcome-based pricing align with the administration costs, the program might need to be 'right-sized', to



4.3 Path Forward 2 – New Regulations: Changing Where/When Road Closures Are Allowed

ensure only more impactful projects are subject to the greatest requirements.

Toronto allows road closures to occur throughout the day, including on major arterials. Noise bylaws restrict projects from working outside of 7AM to 7PM. The City is exploring opportunities to accelerate work in some cases by extending work hours, up to 24/7. As a result, closures occur on the region's highest capacity roads, even during the peak times when road space is most in demand, while limited work occurs overnight and on weekends when demand is lower.

Singapore, New York, and London deploy a different approach where pricing and restrictions push road closures to times when road demand is lowest.

4.3.1 PATH FORWARD 2.1 – EXAMINE HOW TO PUSH CLOSURES TO OFF-PEAK HOURS VIA RESTRICTIONS AND INCENTIVES TO REDUCE IMPACT ON ROAD NETWORK WHEN ROAD DEMAND IS HIGHEST

What is proposed?

Singapore and London use restrictions and pricing to push closures to times with lower demand. In Singapore, roads cannot be closed Monday-Saturday from 6-9:30AM

and from 5-8PM. A 50% discount is provided for closures that occur overnight (from 11PM-6AM or on Sundays/holidays).⁴⁷

In London, there is no blanket restriction during peak hours, but the agency charges the highest road occupancy fees out of any of the jurisdictions reviewed. Projects that are completed entirely outside of peak times do not pay a road occupancy fee.⁴⁸ Peak-times are defined as 6:30AM to 8PM on weekdays, and 12-6PM on weekends.

After introducing this scheme, London adjusted the off-peak window to make it easier for contractors to work within it:

- Off-peak begins at 8PM, up from 10PM



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.”

NYC Department of Transportation Street and Roadway Construction FAQs⁴⁹



- On ‘tidal’ streets – where traffic flows one-way in the morning and the other way in the evening – the peak charge only applies to the side of the street that is demanded, and then switches

What are the potential benefits?

London’s lane rental scheme has not eliminated congestion, but it is estimated that conditions would be far worse without it. From 2010 (the year prior to introduction the policy’s introduction) to 2019, there was a 30 percentage point increase in utility works taking place overnight (from 11% to 41%) and a 31% increase in collaborative work sites.⁵⁰ Customer responses to questions like ‘Repeated roadworks on the same stretch of road within the same year’ and ‘Seeing streets partially closed, but no-one working there’ also improved by roughly 25 percentage points.



NOISE-DAMPENING TECHNOLOGY

- Investing in technology that minimizes the sound emitted as part of road work



DEFINING REGULATORY FRAMEWORK

- Setting rules about how far the work must be from residential locations (example: 150 metres), how much noise may be emitted, or what activities are allowed
- Defining how frequently overnight work can occur in a specific area



DEFINING WHO CAN CLOSE ROADS

- Determining for what purposes overnight work would be allowed (for example: only public projects, only closures that would otherwise create a certain amount of congestion)

What needs to be in place?

Cities that have enabled overnight construction have built policies to minimize harm to nearby communities, including:

4.3.2 PATH FORWARD 2.2 – INVESTIGATE RESTRICTING CLOSURES BASED ON IF A SITE HAS SPACE TO STORE MATERIALS ON THE LOT

What is proposed?

When determining whether to allow a closure or how much to charge, there is an opportunity to differentiate based on how accessible a site is:

- Some construction sites are ‘land-locked’ – they are built from lot-line to lot-line – and do not have any space on-site to store construction materials. Preventing these sites from occupying lanes would impede developers from fully developing the site, making it difficult to build-out the site’s full square footage.
- Some sites are on larger plots, where it is more feasible to store materials onsite or nearby, making it less necessary to close a lane to facilitate construction.

Closures for more accessible sites could be restricted all-together or charged more.

What are the potential benefits?

Treating sites differently based on how accessible they are could cut down on unnecessary lane closures, while allowing closures where they are truly necessary to enable development.

What needs to be in place?

Permitting processes would need to change to define what constitutes an accessible site, and a fee schedule related to access would need to be developed.

4.3.3 TRADE-OFFS TO MOVING CLOSURES

There are clear trade-offs when it comes to scheduling road closures. The current system favours nearby residents but disadvantages travellers who must deal with worse congestion during peak hours. Shifting closures to off-peak hours would push construction to times when noise and dust are of greater nuisance to the surrounding community.

Alternatively, staggered closures where the road must be reinstated each day during peak hours might make the closure excessively long. In these cases, 24-hour closures



TRBOT'S RECENT POLL FOUND STRONG SUPPORT FOR 24-HOUR CONSTRUCTION⁵¹

Residents are willing to endure short-term inconveniences for long-term benefits if it means clearing up congested streets faster.

- 73% support 24-hour road construction
- 74% support 24-hour transit construction

Support for 24-hour construction is strong regardless of the construction's proximity to residential areas. Whether work occurs nearby or farther away, residents see the necessity of expedited construction to alleviate long-term traffic.

completed in a shorter time window might be more appropriate. A change to when closures occur would also affect construction companies, which would need to find ways to staff projects and ensure they are conducted safely.



4.4 Path Forward 3 – New Approaches to Collaborate: Planning and Delivering Closures to Mitigate Impacts

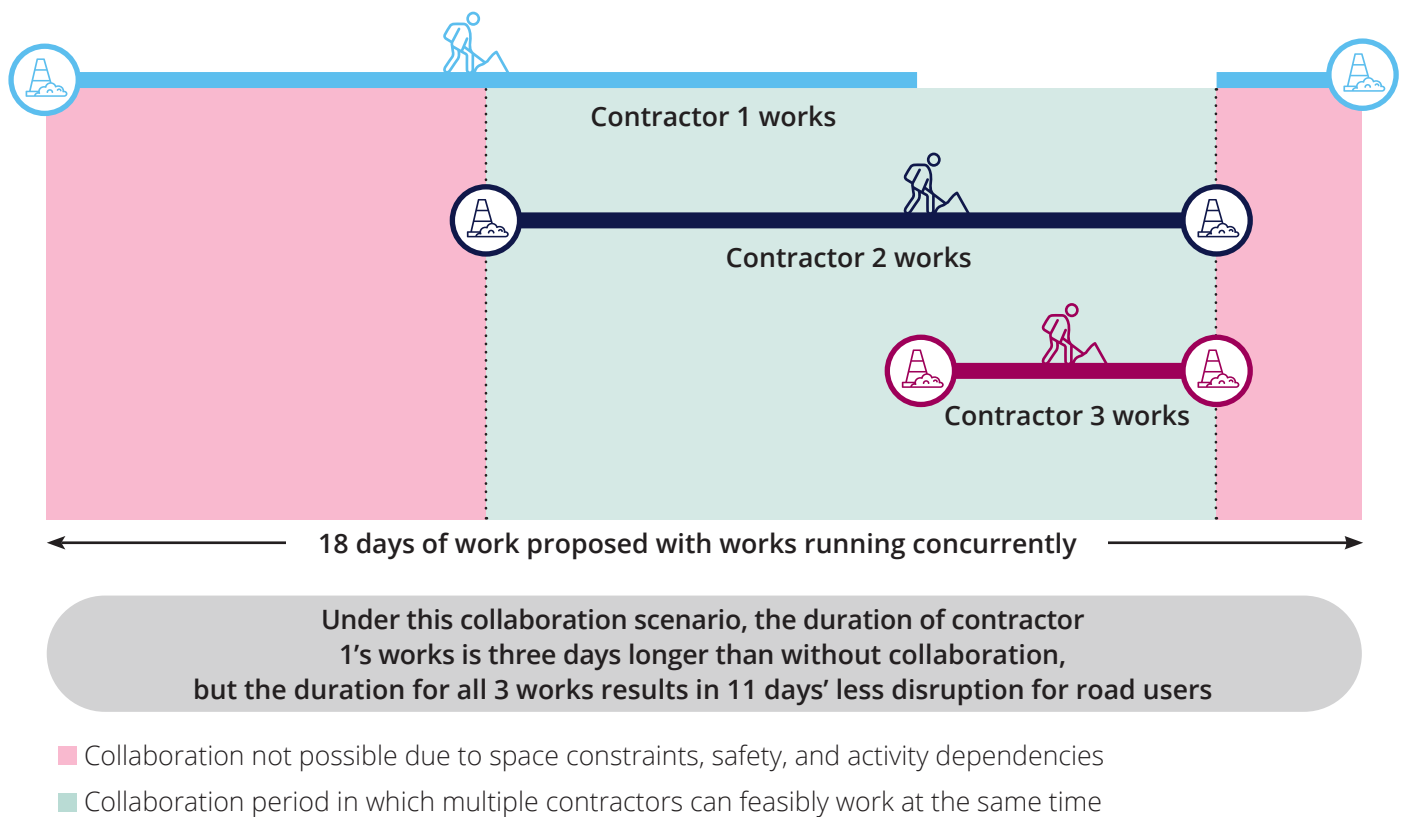
Considering these trade-offs would help identify situations where benefits to travellers from moving closures to off-peak outweigh the costs to residents.

In September 2024, Lawrence Avenue East – which had been recently closed for several months to be repaved – had to be reclosed due to an unplanned watermain break.⁵²

Repeat work – where the same stretch of road is opened and closed multiple times – could increase the amount of time a road is closed, lead to additional resources being used, result in multiple delays and impacts to travel behaviour, and signal unpredictability.

Construction can appear uncoordinated when too many projects occur in the same vicinity. This can overwhelm diversionary routes or even lead to a scenario where a street that was planned to be a diversionary route gets closed itself. Figure 4.1 shows how collaboration between contractors can speed up construction time, which ultimately reduces the total amount of disruption.

Figure 4.1: How collaboration works



Improving collaboration between public and private projects could reduce the number of total closures, decrease the time spent opening/closing roads, and improve public perception of construction management.

4.4.1 PATH FORWARD 3.1 – CONSIDER A DEDICATED CLOSURE OFFICE THAT CAN SHARE INFORMATION BETWEEN PUBLIC AND PRIVATE ENTITIES AND SEQUENCE PROJECTS TO ENABLE COORDINATION

In 2024, Toronto established a Strategic Capital Coordination Office to support the planning and coordination of the City’s multi-year Capital Program with internal and external partners. It also manages the

T.O.INview web application, an interactive map that allows contractors to view existing and planned infrastructure and development projects that will temporarily road capacity.⁵³ Nevertheless, informational interviews suggested coordination – especially between different private entities – is largely informal and relationship-based.


What is proposed?

 **FACILITATING INFORMATION SHARING**


- Holding monthly coordination meetings attended by utilities, contractors, developers, and public agencies where next several months of anticipated work is shared
- Holding annual meetings between city capital office and utilities to discuss city projects starting in next 4 years and align on utility work needed on these streets
- Encouraging information sharing of long-term capital plans from potential road occupiers/ excavators

 **SEQUENCING PROJECTS**

- Using information shared to find opportunities for joint bidding and sequencing timing of reconstruction of excavated streets
- Reviewing proposed infrastructure projects to prevent conflicts: for example, “if two utility owners plan to work on the same block six months apart, the PCO may ask them to plan their work sequentially and share the cost of restoring the street”

 **MAKING PLANNED AND IN-DELIVERY PROJECTS VISIBLE**

- Developing interactive maps that visualize problem areas and highlight:⁵⁵
 - Areas where multiple projects will take place at the same time
 - Streets where multiple projects will take place in quick succession
- These offices both upload data themselves and maintain the sites that private companies can update

 **RESTRICTING WORK ON NEWLY RESURFACED ROADS**

- Chicago and New York do not allow excavations on roads that have been recently resurfaced – for up to 5 years in New York – giving private entities a greater incentive to collaborate and complete works prior to resurfacing

In New York and Chicago, the local Departments of Transportation have developed dedicated offices that are responsible for permitting road closures and sequencing their timing – named the Office of Construction Management and Coordination (OCMC) and the Project Coordination Office, respectively.⁵⁴ These groups minimize the impact of construction and limit repeat works via:

What are the potential benefits?

These offices help ensure the same street is not closed multiple times and that all underground work occurs prior to the completion of asphalt resurfacing. In Chicago, the office saved the City \$24M in 2022 by reducing duplicative work.⁵⁶

What needs to be in place?

The Strategic Capital Coordination Office's remit could be expanded to allow it to support coordination efforts for private projects. Utilities and contractors might need to be incentivized or convinced to share longer-term capital plans.

4.4.2 PATH FORWARD 3.2 – REVIEW LOWERING FEES FOR PROJECTS WHERE DIFFERENT ENTITIES WORK TOGETHER TO INCENTIVIZE COLLABORATION

What is proposed?

In London, Transport for London's Lane Rental Scheme encourages contractors to collaborate by waiving fees during periods of collaboration. Types of collaborations allowed include:

- **Trench sharing:** contractors from different organizations work on the same stretch of road simultaneously, ensuring that the road only needs to be dug up once.
- **Signal sharing:** contractors work on adjoining stretches of road so that only one set of traffic

controls/signage needs to be used.

- **Timing alignment:** two contractors work on the same stretch, one after another. Traffic controls only need to be deployed once, and public perception improves because it does not seem that street is being closed and reopened multiple times.
- **Routine asset inspections:** a contractor inspects their assets during other contractors' works.

What are the potential benefits?

The benefits of achieving collaboration via fee incentives are similar to those unlocked by a dedicated coordination



HOW LONDON'S COLLABORATIVE PERMITS WORK

The UK Highway Authority developed a toolkit to encourage contractors to collaborate while occupying the road.⁵⁷ This defines the mechanism for how the permitting environment should adjust for circumstances where two projects collaborate on the same site:

- Both contractors must receive a permit from the city, but one is deemed the 'primary promoter'; this will be the contractor who is responsible for overall sight management, signing, lighting, guarding, traffic management
- Permits are applied for at the same time, and should refer to collaboration, and types of traffic management that they are responsible for
- Contractors internally figure out sharing of costs, what is required to reinstate road to the city

office – less rework, less time with closed roads, and improved public perception that construction is being managed efficiently. However, unlike a coordination office, this mechanism encourages collaboration by creating market conditions that are amenable to collaboration, without needing to be overly prescriptive about what collaborations should happen.

What needs to be in place?

4.4.3 PATH FORWARD 3.3 – REVIEW THE BROADER ECOSYSTEM OF VENDORS REQUIRED TO EXECUTE SAFE, TIMELY ROAD CLOSURES

Road closures – be they for construction or events – often require support from third party vendors who supply safety equipment or staff. Informational interviews noted that if too many high-profile closures or events are scheduled for the same period, vendors who supply this equipment may be oversubscribed, impeding organizers or contractors from executing closures safely.

What is proposed?

There is an opportunity to review the ecosystem of vendors that supports closures. This includes companies that provide barriers and signage, which are not always supplied by the organizer themselves. It could also include firms that specialize in developing traffic management plans and identifying appropriate diversions.

This review could examine what these vendors are able



to deliver, and gaps between their capacities and the offerings in cities around the world.

What are the potential benefits?

This review could identify areas where Toronto needs to improve to be able to support safe and efficient closures. Assessing how many closures the ecosystem can support at one time can help determine how many events or construction closures should be approved concurrently.

4.4.4 PATH FORWARD 3.4 – CONSIDER REQUIRING HIGH IMPACT CLOSURES TO PREPARE CONSTRUCTION LOGISTICS PLANS TO BETTER MITIGATE WIDER ROAD CLOSURE COSTS

For more impactful closures, Melbourne,

Table 4.1: Key items in Construction Logistics Plans

Vehicle routing and site access	Major and local roads to be used, including any closures
Strategies to reduce impacts	Measures include: scheduling of deliveries for off-peak times, areas to hold vehicles, logistics and consolidation centres where vehicles can wait prior to making last mile trips, staff travel plan, collaboration with other sites in the area
Estimated vehicle movements	Targets for number of vehicles arriving at site and the capacity of any vehicle unloading points
Implementation monitoring	How vehicle movements, community complaints, and safety will be tracked

Sydney, and London require additional documentation from contractors to get assurance that they are successfully mitigating construction impacts.

What is proposed?

Construction logistics plans (CLPs) explain how materials and equipment will arrive and how they will be unloaded/loaded.⁵⁸

What are the potential benefits?

CLPs reduce the number of trips made by heavy trucks, particularly during peak periods. This promises to reduce congestion and improve the safety of other road users. Traffic management plans require contractors to plan how they will engage with road users and relevant stakeholders both during the closure planning stage and on site at the closure itself.

What needs to be in place?

Before increasing permitting requirements, a threshold is needed to determine which closures merit elevated permitting. To ensure permits are approved in appropriate timeframes, additional staff are needed to review permits, or less time would need to be spent reviewing low-impact projects.



4.5 Path forward 4 – New Incentives and Management Approaches: Keeping Road Closures Within Agreed Timeframes

4.4.5 POTENTIAL CHALLENGES

Making it easier for different entities to collaborate has the potential to reduce how often a road gets closed multiple times. However, mandating that entities collaborate could increase construction costs and slow timing if contractors must delay their project to collaborate with another entity. Site sharing could slow down construction productivity, potentially increasing the overall length of road closures.

Media coverage of road closures sometimes mentions the perception that road closures extend indefinitely, sometimes with no one appearing to be working.⁵⁹ While this belief does not necessarily align with reality, the City's road closure management policy has limited mechanisms to resolve prolonged road closures.

Fee escalations, incentives, and audits can help reward projects that plan well, follow rules, and close lanes for as short as possible.

4.5.1 PATH FORWARD 4.1 – EVALUATE INCREASING THE DAILY FEE FOR CLOSURES BASED ON DURATION IN DAYS OF CLOSURE TO PREVENT CLOSURES FROM EXTENDING INDEFINITELY

What is proposed?

Toronto's September 2024 Congestion Management Update proposed a congestion management levy that could 'escalate' for longer duration closures. This program would mirror Chicago's road occupancy fee program, which has 6 'check-points' based on the number of days a closure has lasted. Each time a closure hits one of these check-points – set at 4 days, 181 days, 361 days, 541 days, and 721 days – the monthly cost increases. The fee to occupy a lane is 8 times higher on day 721 than it is on day 1.⁶⁰

What are the potential benefits?

Fee escalations recognize that closures need to occur but make it more expensive to close roads for prolonged

periods of time. This incentivizes contractors to plan for shorter closures and puts pressure on them to resolve closures before they extend too far out.

What needs to be in place?

A mechanism would be needed to monitor how long a closure has been active. It would need to determine how to treat projects that close a street multiple, intermittent times.

4.5.2 PATH FORWARD 4.2 – CONSIDER REWARDING



CONTRACTORS WITH CONSISTENTLY HIGH SAFETY AND COMPLIANCE STANDARDS

What is proposed?

An alternative to penalizing contractors is to reward those with strong track records of safety and compliance. London provides discounts of 5-25% to contractors who demonstrate high levels of performance and have completed enough projects to be assessed.⁶¹ Criteria include:

What are the potential benefits?

Contractors who have strong track records will pay less, and this could become a comparative advantage that could incentivize all contractors to adopt better road closure practices.

What needs to be in place?

A system would be needed to track these relevant metrics – safety, compliance, road reinstatement, and closure time – at the contractor level.

4.5.3 PATH FORWARD 4.3 – IMPROVE MAPPING OF LOCATION DATA

According to informational interviews, public location data of underground infrastructure – including utilities – lags international jurisdictions, including Germany and Australia.

Lack of knowledge of where utilities are and whether these are in service can slow work that requires excavations of city streets. Delays occur where contractors are unable to act until third party asset owners share information, sometimes causing the permitted road closure window to lapse prior to information being shared. The unexpected discovery of an underground asset at the worksite can also pause work while it is determined whether this infrastructure is still in use.

What is proposed?

Creating a framework where underground asset owners are required to document their infrastructure and provide records to contractors in a timely manner can expedite excavation work by reducing unexpected conflicts and enabling work to occur during the planned closure window.

As mentioned in section 3.1, Ontario has begun piloting several digital twins projects that can help improve the speed at which projects involving underground assets are completed.⁶² Digital twins are virtual models that highlight existing and planned asset near construction projects. These can help utilities and road builders identify issues stemming from other parties’ assets prior to closing a lane, and then resolve these challenges prior to the work beginning. This can reduce delays and ensure that closures take a minimum amount of time.

4.5.4 PATH FORWARD 4.4 – LOOK INTO CONDUCTING CLEAN UP, SET UP, AND ACTIVITY AUDITS TO ENSURE CLOSURES ARE ONLY IN EFFECT WHEN WORK IS TAKING PLACE

What is proposed?

A common concern voiced in the public is that roads are closed but no work appears to be done. Montreal changed their rules in 2023 to mandate that signs closing a road cannot go up more than 24 hours prior to construction beginning, and sites must be returned to the City 24 hours after the completion of work.⁶³ If no work occurs for five consecutive days without action, the City may withdraw a work permit.

What are the potential benefits?

These audits are intended to incentivize more efficient road closure lengths by contractors. These can also cut down on ‘translation issues’ – where the actual road closure does not align with what was permitted, leading to a greater impact on traffic than originally planned.

What needs to be in place?

Increasing the number of site audits would require increasing the number of city staff who are charged



Contractors price risk. The risk of fee escalations may lead contractors to increase the prices that they charge developers, and these increases may be passed on to end consumers.



Programs to monitor contractor performance and compliance may require significant overhead to manage, which may cost more than the benefits these programs unlock.

4.6 Path forward 5 – New Ways to Engage: Bringing Travellers Into Impact Management

with inspecting construction sites. It would also require contractors to adjust certain practices about when and how they set up sites and clean up sites, since those practices differ based on whether the set up is occurring during daylight hours or not.

4.5.5 POTENTIAL CHALLENGES FROM CHANGING INCENTIVES FOR IN-FLIGHT CLOSURES

The following challenges should be reviewed when considering this path forward:

While the impact of closures can be mitigated, some will still need to occur. Today, closure information is shared with road users via the City of Toronto Road Restrictions website⁶⁴ and press releases that are shared on local news. While travelers who check trip planning software (for example: Google Maps) may see information about road closures and their impacts, regular commuters may not think to check.

A formal closure information sharing program could help road users more adequately plan for closures. This could enable them to adjust their behaviour to reduce the impact of the closure on congestion.

Enhancing Smart Commute – Toronto’s transportation demand management platform – with closure information could help travelers change their routes, modes, or travel time when significant closures or events occur.

4.6.1 PATH FORWARD 5.1 – CONSIDER LINKING

TRANSPORTATION DEMAND MANAGEMENT TO MAJOR CLOSURES TO HELP TRAVELERS AVOID AREAS WITH CONGESTION

What is proposed?

In San Diego, the regional planning organization



MILESTONE-DRIVEN COMMS

- Email-blasts and advertised posts inform travelers when key construction milestones are approaching
- Ongoing communications support these one-time messages with a regular stream of information on how to avoid construction congestion, shared at company-sponsored events, community meetings, and the Shift website



TAILORED MOBILITY SOLUTIONS

- Commuters receive incentives to travel to work via alternative modes, and apps to assist with trip planning
- Students receive transit passes at discounted rates, while parents are instructed on school-focused programs
- Employers receive subsidies for transit passes, vanpools, and carsharing
- An employer-focused toolkit helps employers communicate these options to their staff

developed a Transportation Demand Management (TDM) program which is similar to the GTHA’s Smart Commute – it helps reduce congestion by giving travellers information about sustainable transportation modes, incentives to switch to them, and platforms to make them easier to use.

During a period of intense construction on the I-5 highway, they introduced Shift, a version of TDM dedicated to travelers impacted by construction lane closures.

Shift works in two ways:

What are the potential benefits?

Linking Smart Commute to road closures would augment an existing platform with messaging that is targeted to material closures. This can give travelers a ‘one-stop’ portal where they can get information about how their commute will be affected as well as solutions for how they can vary their travel mode, route, or travel time to avoid sitting in traffic.

4.6.2 PATH FORWARD 5.2 – ENHANCE TORONTO’S ROAD RESTRICTIONS WEBSITE

What is proposed?

Toronto’s road restrictions website includes an interactive map that details current closures, the hours they are in place, the severity impact, and the contractor. Other cities, including Chicago and Montreal, have enhanced their public-facing maps to also include information about planned closures, as well as copies of the permit and



5 Next steps

contact information for the relevant contractor.⁶⁵ They have also implemented notification systems whereby residents can opt-in to receiving updates whenever a new closure is planned in their neighbourhood.

What are the potential benefits?

Investing in a superior road restrictions website can improve traveler experiences by making it easier for them to stay informed on relevant closures. This can allow them to change their behaviour and reduces the risk that they will be surprised by a closure which forces them to make an unexpected detour.

Toronto's traffic is a major economic concern – as TRBOT's polling shows, gridlock is causing Torontonians to rethink whether they want to stay in the region, and cut down on travel to work, play, and see family and friends. As the region's population is projected to grow by five million in the next 25 years, pressure will increase on the region's transportation network.

With multiple rapid transit infrastructure projects in delivery and real-estate development set to ramp-up



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