



Subway Closures – 2020 Review and 2021 Forecast

Date: December 15, 2020
To: TTC Board
From: Deputy Chief Executive Officer

Summary

The purpose of this report is to provide a review of the 2020 Subway Closures accomplishments, including the initiatives implemented to improve service during closures, and the forecast for 2021 Subway Closures.

Recommendations

It is recommended that the TTC Board:

1. Endorse the 2021 Subway Closure Forecast and direct staff to report on changes through the Chief Executive Officer's Report; and
2. Forward this report to the General Manager, Transportation Services, for information.

Financial Summary

Funding has been included as part of the TTC's 2021-2030 Capital Budget and Plan Submission, primarily within the Automatic Train Control (ATC) project and various State-of-Good-Repair (SOGR) projects, for associated subway closure costs.

It is intended that the costs of the Eglinton Crosstown Light Rail Transit (ECLRT) closures will be funded through the proceeds of a settlement with Metrolinx, which is in process of being finalized. In addition, the TTC will make best efforts to leverage ECLRT closures for other TTC capital requirements and charge closure costs associated with these instances to the appropriate TTC project.

Closure costs are variable, dependent on duration and distance of the closure as well as the complexity of the work. The cost for each closure is attributed to the operating costs for buses, advertising and staffing (which includes operators and contracted customer service support staff), TTC staff to supervise the closure, paid duty police officers and parking enforcement officers. The average early closure cost is approximately \$50,000 per evening and costs of full weekend closures vary from

\$300,000 to \$500,000 depending on the length of the closure (\$150,000 to \$250,000 per day).

Closures of the subway with no vehicles operating offer larger maintenance windows to complete the work and allow for scheduling of more complicated scopes of work.

The Interim Chief Financial Officer has reviewed this report and agrees with the financial impact information.



Equity/Accessibility Matters

Subway closures result in route diversions and other temporary changes to transit service. These changes affect access to transit service for various TTC customers, including families, people with disabilities and seniors.

In order to minimize the impact, the TTC provides:

- Wheel-Trans available upon request to assist customers to reach an accessible subway station; and
- Accessible low-floor buses equipped with ramps and a kneeling feature. These buses have route destination signs and automated audible and visual next stop announcements.

The TTC provides advance notification of subway closures and temporary and extended service disruptions and delays to customers via:

- Audible and visual displays on video screens on subway platforms and stations.
- Website postings at [Service Advisories](#), on [Twitter @TTCnotices](#)  and [Facebook](#) .
- E-mail to customers who registered to [My TTC e-Alerts](#).
- mywheel-trans.ttc.ca updated with subway closures information when booking a trip.

Escalator and elevator disruption information is posted on the TTC website at [Elevators and escalators planned maintenance](#). Status is also available by calling 416-539-5438 (LIFT) or TTY 416-338-0357, or by e-mail at [My TTC e-Alerts](#) (elevators only). During closures, elevator and escalator crews are stationed at end terminals to ensure all accessible equipment is functional.

The TTC continues to work to provide a barrier-free transit system, in support of the Accessibility for Ontarians with Disabilities Act (AODA) for an accessible Ontario by 2025.

http://www.ttc.ca/About_the_TTC/Commission_reports_and_information/Commission_meetings/2020/July_14/Reports/6_2020_Accessibility_Plan_Status_Update.pdf

All subway closures are extensively planned and coordinated to minimize the impact on customers as much as possible.

The TTC takes into consideration the impact each closure has on service levels across the city and how this will affect customer travel patterns. During the subway closures, the TTC provides various alternate services by:

- Operating shuttle buses along the affected portion of the subway line and servicing closed stations;
- Increasing service on existing routes affected by the subway closure;
- Modifying traffic signals to give priority to the shuttle buses, minimizing traffic congestion and improving shuttle bus efficiency;
- Using scheduled construction buses along routes impacted by subway closures and surface construction projects (including Eglinton Crosstown construction);
- Employing Toronto Police Paid Duty Officers to assist shuttle buses through busy intersections, as well as Toronto Parking Enforcement Officers to enforce parking restrictions along the shuttle route;
- Staffing stations and shuttle bus stops with supervisory staff and customer service representatives to provide customer information and respond to the needs of customers. Staff and customer service representatives are trained on the AODA and the Ontario Human Rights Code in order to respond to customer needs; and
- Communicating to customers in advance of, and during, all closures through signage, announcements and media outlets.

It is important to stress that shuttle services cannot fully duplicate the carrying capacity of subway trains.

Decision History

At its meeting on November 18, 2013, the TTC Board received a report that provided an overview of Metrolinx's Eglinton Crosstown Light Rail Transit Project and summary of the Metrolinx/City of Toronto/TTC Master Agreement. The Master Agreement includes a provision that all costs associated with any closures for Eglinton Crosstown are to be absorbed by Metrolinx.

[Yonge-Eglinton and Eglinton West Interchange Stations – Metrolinx Eglinton Crosstown Light Rail Transit Project – Preliminary Concept Design Approvals \(https://www.ttc.ca/About the TTC/Commission reports and information/Commission meetings/2013/November 18/Reports/Yonge-Eglinton and E.pdf\)](https://www.ttc.ca/About%20the%20TTC/Commission%20reports%20and%20information/Commission%20meetings/2013/November%2018/Reports/Yonge-Eglinton%20and%20E.pdf)

At its meeting on August 19, 2014, the Board received a report that explained the need for, and purpose of, subway closures.

[Explanation of Subway Closures](https://www.ttc.ca/About%20the%20TTC/Commission%20reports%20and%20information/Commission%20meetings/2014/August%2019/Reports/Explanation%20of%20Subway%20Closures.pdf)

([https://www.ttc.ca/About the TTC/Commission reports and information/Commission meetings/2014/August 19/Reports/Explanation of Subway Closures.pdf](https://www.ttc.ca/About%20the%20TTC/Commission%20reports%20and%20information/Commission%20meetings/2014/August%2019/Reports/Explanation%20of%20Subway%20Closures.pdf))

At meetings on January 18, 2017, November 13, 2017, April 11, 2019 and December 12, 2019, staff made presentations to the TTC Board on subway closures.

[Presentation: Subway Closures - 2016 Year In Review and 2017 Forecast](https://www.ttc.ca/About%20the%20TTC/Commission%20reports%20and%20information/Commission%20meetings/2017/January%2018/Reports/10%20Presentation%20Subway%20Closures%20%202016%20Year%20in%20Review%20and%20201.pdf)

([https://www.ttc.ca/About the TTC/Commission reports and information/Commission meetings/2017/January 18/Reports/10 Presentation%20Subway%20Closures%20%202016%20Year%20in%20Review%20and%20201.pdf](https://www.ttc.ca/About%20the%20TTC/Commission%20reports%20and%20information/Commission%20meetings/2017/January%2018/Reports/10%20Presentation%20Subway%20Closures%20%202016%20Year%20in%20Review%20and%20201.pdf))

[Subway Closures – 2017 Year in Review and 2018 Forecast](https://www.ttc.ca/About%20the%20TTC/Commission%20reports%20and%20information/Commission%20meetings/2017/November%2013/Reports/10%20Subway%20Closures%202017%20Year%20in%20Review%20and%202018%20Forecast.pdf)

([https://www.ttc.ca/About the TTC/Commission reports and information/Commission meetings/2017/November 13/Reports/10 Subway Closures 2017 Year in Review and 2018 Forecast.pdf](https://www.ttc.ca/About%20the%20TTC/Commission%20reports%20and%20information/Commission%20meetings/2017/November%2013/Reports/10%20Subway%20Closures%202017%20Year%20in%20Review%20and%202018%20Forecast.pdf))

[Subway Closures – 2018 Review and 2019 Forecast](https://www.ttc.ca/About%20the%20TTC/Commission%20reports%20and%20information/Commission%20meetings/2019/April%2011/Reports/20%20Subway%20Closures%202018%20Review%20and%202019%20Forecast.pdf)

([https://www.ttc.ca/About the TTC/Commission reports and information/Commission meetings/2019/April 11/Reports/20 Subway Closures 2018 Review and 2019 Forecast.pdf](https://www.ttc.ca/About%20the%20TTC/Commission%20reports%20and%20information/Commission%20meetings/2019/April%2011/Reports/20%20Subway%20Closures%202018%20Review%20and%202019%20Forecast.pdf))

[Subway Closures – 2019 Review and 2020-2022 Forecast](http://www.ttc.ca/About%20the%20TTC/Commission%20reports%20and%20information/Commission%20meetings/2019/December%2012/Reports/15%20Subway%20Closures%202019%20Review%20and%202020%202022%20Forecast.pdf)

([http://www.ttc.ca/About the TTC/Commission reports and information/Commission meetings/2019/December 12/Reports/15 Subway Closures 2019 Review and 2020 2022 Forecast.pdf](http://www.ttc.ca/About%20the%20TTC/Commission%20reports%20and%20information/Commission%20meetings/2019/December%2012/Reports/15%20Subway%20Closures%202019%20Review%20and%202020%202022%20Forecast.pdf))

Issue Background

The TTC is committed to providing safe, reliable and efficient service. In order to do so, the TTC performs regular inspections and repairs to its infrastructure nightly at the conclusion of subway service.

Currently, the subway system opens at 6 a.m., six days a week, and at 8 a.m. on Sundays, with a closing time between 2 a.m. and 3 a.m. These operating hours result in a small window of opportunity to carry out required maintenance work.

On weeknights and Saturdays, TTC staff have an approximate three-hour timeframe for work, and from Saturday night into Sunday morning, a five-hour timeframe is available. Further, because the nature of the work requires TTC staff to set up work zones and move equipment into the work area, typically less than two hours of physical work can be achieved each night.

The TTC typically uses four types of closures. They are:

- **Weeknight Early Closure:** A section of the line is closed early, at 11 p.m. on weeknights, Monday to Thursday. This approach was trialed in the fall of 2018 and was fully implemented in 2019 with the intention to continued use in 2020 and beyond.
- **One Day Weekend Closure (Single Day):** A section of the line is closed for one day from end of service the previous night to the start of service the following morning.
- **Full Weekend Closure:** A section of the line is closed for two days from end of service Friday night to the start of service on Monday morning. One full weekend closure is equivalent to approximately five weeks of night work in many projects.
- **One Day Late Opening:** A section of the line is closed, usually on a Sunday, for approximately four hours and regular scheduled service begins at 12 p.m.

Two major projects are currently progressing on Line 1 Yonge-University: the TTC's ATC Resignalling project and Metrolinx's Eglinton Crosstown project. These make up the majority of the full weekend closures as the complexity of these projects does not allow for work to be conducted efficiently during the regular nightly maintenance window.

Additionally, based on TTC ridership data, there are fewer customers travelling on weekends than weekdays. Therefore, full weekend subway closures minimize disruption to a greater number of customers.

In 2020, the TTC planned and executed full weekend closures, single-day closures, early closures, late openings, a four-day closure, and a 10-day closure as outlined below.

Comments

2020 Closure Review

In 2020, the TTC planned 80 closures, 34 full weekend closures, 10 single-day closures, eight late openings and 28 weeks of early closures. As a result of the COVID-19 pandemic, the majority of City events were cancelled and subway ridership decreased significantly, which offered a unique opportunity to review and revise the closure schedule.

TTC staff were able to schedule 90 total closures, 27 full weekend closures, 13 single-day closures, seven late openings, 41 early closures (138 early nights), our first four-day closure and a 10-day closure (December 4-14). The November and December closures are a forecast and are dependent on the impact of COVID-19 along with other factors.

The subway closures facilitated work on Lines 1, 2 and 3. A significant amount of work was carried out on Line 1 to advance the SOGR projects and the ATC project (shown below) as of October 3, 2020. The statistics indicate the work done on closures only and do not represent overall accomplishments to date; many significant accomplishments were achieved in 2020 in various programs as a result of the opportunities offered by the various closures.

Line 1 Yonge-University

- State-of-Good Repair (SOGR) projects:
 - Installation of the remaining two rail turnouts at Lawrence Station.
 - Major maintenance work, including replacement of switch points, stock rail, lead rails, closure rail and frogs completed at seven locations.
 - Nearly 5,000 feet of tangent rail replaced.
 - Close to 20,000 square feet of asbestos removed.
 - 90% of the North York Centre platform replaced (to be completed by the end of 2020).
 - Ongoing work on the St Clair Electronically Operating Traction Power Isolation Switch (EOIS). Installation to be commissioned in Q2 2021 in advance of ATC Phase 4 commissioning in September 2021.
 - 19 switch machines replaced.
 - 7.5 liners and about 100 locations of leaks repaired.
 - Finch Station platform wall panel replaced.

- ATC project:
 - 8,890 feet of strut installations for Phase 5 (Eglinton to Finch).
 - 21,270 feet of tray installations for Phase 4 (Rosedale to Eglinton) and Phase 5.
 - 76,120 feet of cable installations for Phase 5.
 - Phase 3B and C (St Patrick to Bloor) testing, including trial operations with operators, subway supervisors and yard control staff in advance of further ATC commissioning in both phases completed.
 - Commissioning to enable the continuous ATC operations from Vaughan Metropolitan Centre to Rosedale stations completed.

- Advancement of TTC work for the ECLRT project at Eglinton Station to include a variety of live line Communication and Electrical systems cutovers, as part of the Back of House (BOH) initiatives, to support work advancement for Crosslinx Transit Solutions (CTS) work in conjunction with our Metrolinx Partners.

Line 2 Bloor-Danforth

- SOGR projects:
 - Installation of one rail turnout at Broadview.
 - Major maintenance completed at two locations.
 - 9,500 feet of tangent rail replaced.
 - Six beams replaced on the Prince Edward Viaduct.
 - Two switch machines replaced.
 - Seven train signalling instrument cases replaced.

- Easier Access projects:
 - Chester Station closure from June 9th to June 23rd allowed TTC to deliver stations elevators ahead of the targeted schedule date.

Line 3 Scarborough

- SOGR projects:
 - 4,000 feet of rail replaced.

Signals, track and electrical maintenance work was completed on all lines, which included: cable sleeving, lighting deficiencies, heating cable checks and replacement, track defect items, tamping, addressing non-destructive testing (NDT) defects, train stop replacement, miscellaneous track/station cleaning, signals and track quality assurance/quality checks, etc.

To highlight the benefits of closures, below is a summary of our annual achievements as a ratio of our annual target contrasted to the percentage of the work done in the closure (as of October 3, 2020):

- Full turnout replacement: 50% completed to date, 100% completed in closures (this work requires early and weekend closures).
- Major maintenance: 180% completed to date, 50% completed in closures.
- Tangent rail replacement: 160% completed to date, 90% completed in closures.
- Asbestos removal: 170% completed to date, 60% completed in closures.
- Structural rehabilitation: 100% of the North York Centre platform replacement was completed in closures, which helped advance the project schedule by six months.
- PEV beam replacement: 90% completed to date, 50% completed in late openings.
- Signals switch machine replacement: 120% completed to date, 80% completed in closures.
- Signals instrument case replacement: 70% completed to date, 100% completed in closures (this work requires weekend closures).
- Tunnel leak remediation: 90% completed to date, 30% completed in closures.
- Commissioned ATC Phases 3B and 3C allowing Line 1 to be ATC operational from Vaughan Metropolitan Centre to Rosedale.
- ATC Phase 5 construction:
 - 100% strut installation completed to date, 30% completed in closures.
 - 90% cable tray installation completed to date, 40% completed in closures.
 - 25% cable installation completed, 75% completed in closures.
 - Advancement of the ATC room work at York Mills.
- Other work advanced due to closures: Finch wall panels, COVID-19 decals, landscaping efforts in open cuts, emergency work such as clean up due to floods, coverboard and stepboard replacement at various locations.

2021 Subway Closures Forecast

The TTC continues to leverage lower ridership in 2021 and therefore as a result of several demands for aggressive capital construction activities, the following tentative 2021 closure plan is submitted to accelerate work, for review and approval.

ECLRT = Eglinton Crosstown Light Rail Transit; ATC = Automatic Train Control; SOGR = State of Good Repair; ECE = Engineering, Construction and Expansion

37 Full Weekend Closures, including 3 back-up Closures for ATC Testing (18 - ECLRT, 6 - ATC, 7 - SOGR, 6 - ECE)

Line ① 31

Line ② 6

2 Single Day Closures (2 - SOGR)

Line ① 1

Line ③ 1

6 Late Sunday Openings (6 - SOGR)

Line ② 6

197 Early Weeknight Closures (197 - SOGR)

Line ① 175

Line ② 18

Line ③ 4

The outlined tentative 2021 closure forecast has been composed ensuring TTC SOGR requirements and expansion initiatives are prioritized and executed as efficiently as possible to minimize disruption to our customers, while allowing for modifications where possible. The submitted calendar has allowed for 13 available weekends for any optional work that may develop, being mindful of unknown details surrounding City of Toronto events.

Given the outlined 2021 closures, TTC staff will work to fill key vacancies and ensure all requirements (i.e. tools, equipment, etc.) are in place for the 2021 construction season to ensure continued closure success.

As mentioned in previous Board reports, the TTC anticipates that the number of weekend closures will be reduced in 2022 as both the Line 1 ATC Project and the ECLRT closures are scheduled to conclude, leaving weekend closures to be scheduled for SOGR and key capital projects.

Please see Attachment 1 for more details with respect to the 2021 Subway Closures Forecast.

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Signature

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Attachments

Attachment 1 – 2021 Subway Closures Forecast

ATTACHMENT 1 – 2021 SUBWAY CLOSURES FORECAST

*EA = Early Weeknight Closure; FW = Weekend Closure; SA = Single Day Closure;
 LO = Late Opening
 ** ECLRT = Eglinton Crosstown Light Rail Transit; ATC = Automatic Train Control;
 SOGR = State-of-Good Repair;
 ECE = Engineering, Construction and Expansion

DATE	CLOSURE TYPE*	PROJECT	Primary**	Other**	Shuttle Bus Service
Jan 4-7	EA	(EA) WB C43 High Rail Replacement (Replace worn NR, Upgrade 85lb RR to 100lb RR)	SOGR		KEELE to OSSINGTON (BD)
Jan 11-14	EA	(EA) SM Asbestos Abatement, Liners, Leaks	SOGR		FINCH to EGLINTON
Jan 18-21	EA	(EA) SM Asbestos Abatement, Liners, Leaks	SOGR		FINCH to EGLINTON
Jan 23/24	FW	(FW) Eglinton ECLRT (train turnback DAVISVILLE BUILDUP)	ECLRT	+ATC	FINCH to ST CLAIR (DV BUILD-UP)
Jan 25-28	EA	(EA) SM Asbestos Abatement, Liners, Leaks	SOGR		FINCH to EGLINTON
Feb 1-4	EA	(EA) Kennedy Double X-Over S-180, S-181, S-182, S-183: Major Maintenance	SOGR		WARDEN to KENNEDY (BD)
Feb 6/7	FW	(FW) Eglinton ECLRT (train turnback DAVISVILLE BUILDUP)	ECLRT	+ATC	FINCH to ST CLAIR (DV BUILD-UP)
Feb 8-11	EA	(EA) SM Asbestos Abatement, Liners, Leaks	SOGR		FINCH to EGLINTON
Feb 16-18	EA	(EA) SM Asbestos Abatement, Liners, Leaks	SOGR		FINCH to EGLINTON
Feb 22-25	EA	(EA) SM Asbestos Abatement, Liners, Leaks	SOGR		FINCH to EGLINTON
Feb 27/28	FW	(FW) Eglinton ECLRT (train turnback DAVISVILLE BUILDUP)	ECLRT	+ATC	FINCH to ST CLAIR (DV BUILD-UP)
Mar 1-4	EA	(EA) SM Asbestos Abatement, Liners, Leaks	SOGR		FINCH to EGLINTON

DATE	CLOSURE TYPE*	PROJECT	Primary**	Other**	Shuttle Bus Service
Mar 6/7	FW	(FW) Eglinton ECLRT (train turnback DAVISVILLE BUILDUP)	ECLRT	+ SOGR	FINCH to ST CLAIR (DV BUILD-UP)
Mar 8-11	EA	(EA) SM Asbestos Abatement, Liners, Leaks	SOGR		FINCH to EGLINTON
Mar 13/14	FW	(FW) ATC P4 SIT13	ATC		LAWRENCE to BLOOR
Mar 15-18	EA	(EA) SM Asbestos Abatement, Liners, Leaks	SOGR		FINCH to EGLINTON
Mar 20-21	FW	BACKUP (FW) ATC P4 SIT13	ATC		LAWRENCE to BLOOR
Mar 22-25	EA	(EA) SM Asbestos Abatement, Liners, Leaks	SOGR		FINCH to EGLINTON
Mar29-Apr1	EA	(EA) Prep New Turnout S241&242 (TYSSE Project) and Soft Sport Remediation and Ties	SOGR		SHEPPARD WEST to LAWRENCE WEST
Apr 5-8	EA	(EA) Prep New Turnout S241&242 (TYSSE Project) and Soft Sport Remediation and Ties	SOGR		SHEPPARD WEST to LAWRENCE WEST
Apr 10/11	FW	(FW) Eglinton ECLRT (train turnback DAVISVILLE BUILDUP)	ECLRT	+ATC +ECE	FINCH to ST CLAIR (DV BUILD-UP)
Apr 11	LO	(LO) SM PEV Beam Replacement 8am-11am	SOGR		ST GEORGE to BROADVIEW (BD)
Apr 12-15	EA	(EA) Prep New Turnout S241&242 (TYSSE Project) and Soft Sport Remediation and Ties	SOGR		SHEPPARD WEST to LAWRENCE WEST
Apr 17/18	FW	(FW) New Turnout S241&242 (TYSSE Project)	SOGR	+ECE	SHEPPARD WEST to LAWRENCE WEST
Apr 19-22	EA	(EA) Post closure New Turnout S241&242 (TYSSE Project)	SOGR		SHEPPARD WEST to WILSON
Apr 24/25	FW	(FW) Eglinton ECLRT (train turnback DAVISVILLE BUILDUP)	ECLRT	+ECE	LAWRENCE to ST CLAIR
Apr 25	LO	(LO) SM PEV Beam Replacement 8am-11am	SOGR		ST GEORGE to BROADVIEW (BD)
Apr 26-29	EA	(EA) Prep New Turnout S99&100 (TYSSE Project)	SOGR		SHEPPARD WEST to WILSON

DATE	CLOSURE TYPE*	PROJECT	Primary**	Other**	Shuttle Bus Service
May 1/2	FW	(FW) New Turnout S99&100 (TYSSE Project)	SOGR	+ECE	SHEPPARD WEST to WILSON
May 3-6	EA	(EA) Post closure New Turnout S99&100 (TYSSE Project)	SOGR		SHEPPARD WEST to WILSON
May 8/9	FW	(FW) Eglinton ECLRT (train turnback DAVISVILLE BUILDUP)	ECLRT	+ECE	LAWRENCE to ST CLAIR (DV BUILD-UP)
May 9	LO	(LO) SM PEV Beam Replacement 8am-11am	SOGR		ST GEORGE to BROADVIEW (BD)
May 10-13	EA	(EA) SM Asbestos Abatement, Liners, Leaks	SOGR		FINCH to EGLINTON
May 15/16	FW	(FW) ATC P4 SAT5 (no sharing, ATO testing at revenue speed)	ATC		LAWRENCE to BLOOR
May 17-20	EA	(EA) SM Asbestos Abatement, Liners, Leaks	SOGR		FINCH to EGLINTON
May 22-23	FW	(FW) Tangent NB Davisville Station ER and WR Replacement (Re-insulate as required)	SOGR		LAWRENCE TO ST CLAIR
May 25-27	EA	(EA) SM Asbestos Abatement, Liners, Leaks	SOGR		FINCH to EGLINTON
May 29/30	FW	<i>BACKUP (FW) ATC P4 SAT5 (no sharing, ATO testing at revenue speed)</i>	ATC		<i>LAWRENCE to BLOOR</i>
May31-Jun3	EA	(EA) SM Asbestos Abatement, Liners, Leaks	SOGR		FINCH to EGLINTON
Jun 6	EA	(EA) SM PEV Beam Replacement 11pm	SOGR		ST GEORGE to BROADVIEW (BD)
Jun 7-10	EA	(EA) SM Asbestos Abatement, Liners, Leaks	SOGR		FINCH to EGLINTON
Jun 12/13	FW	(FW) Eglinton ECLRT (train turnback DAVISVILLE BUILDUP)	ECLRT	+ATC	FINCH to ST CLAIR (DV BUILD-UP)
Jun 14-17	EA	(EA) WB C59 High Rail Replacement (Re-insulate 4 plates) and Soft Spot Remediation	SOGR		WOODBINE to KENNEDY (BD)
Jun 19-20	FW	(FW) Eglinton ECLRT (train turnback DAVISVILLE BUILDUP)	ECLRT		LAWRENCE to ST CLAIR

DATE	CLOSURE TYPE*	PROJECT	Primary**	Other**	Shuttle Bus Service
Jun 20	LO	(LO) SM PEV Beam Replacement 8am-11am	SOGR		ST GEORGE to BROADVIEW (BD)
Jun 21-24	EA	(EA) Prep S4 Kipling new turn out EC&E project	SOGR		KIPLING to ISLINGTON (BD)
Jun 26/27	FW	(FW) ECE Kipling 3rd storage track; Bloor St bridgework, Humber River bridgework	ECE	+ SOGR	KIPLING to JANE (BD)
Jun 28-30	EA	(EA) Bloor-Spadina NB C115 New U69 and DELKOR plates installation Low side	SOGR		ST CLAIR WEST to OSGOODE
Jul 3/4	FW	(FW) Bloor-Spadina NB C115 New U69 and DELKOR plates installation Low side	SOGR		ST CLAIR WEST to OSGOODE
Jul 5-8	EA	(EA) Bloor-Spadina SB C115 New U69 and DELKOR plates installation Low side	SOGR		ST CLAIR WEST to OSGOODE
Jul 11	LO	(LO) SM PEV Beam Replacement 8am-11am	SOGR		ST GEORGE to BROADVIEW (BD)
Jul 12-15	EA	(EA) Bloor-Spadina NB C115 New U69 and DELKOR plates and Soft Spot Remediation	SOGR		ST CLAIR WEST to OSGOODE
Jul 17/18	FW	(FW) Eglinton ECLRT (train turnback DAVISVILLE BUILDUP)	ECLRT	+SOGR	LAWRENCE to ST CLAIR
Jul 19-22	EA	(EA) SB C10 Low Rail Replacement (Upgrade Rail - Running, Restraining and Guard)	SOGR		SPADINA to OSGOODE
Jul 24/25	FW	(FW) ECE Kipling 3rd storage track; Bloor St bridgework, Humber River bridgework	ECE	+ SOGR	KIPLING to JANE (BD)
Jul 25	LO	(LO) SM PEV Beam Replacement 8am-11am	SOGR		ST GEORGE to BROADVIEW (BD)
Aug 3-6	EA	(EA) SB C10 High Rail Replacement (Upgrade Rail - Running, Restraining and Guard)	SOGR		SPADINA to OSGOODE
Aug 7/8	FW	(FW) Eglinton ECLRT (train turnback DAVISVILLE BUILDUP)	ECLRT	+ATC	FINCH to ST CLAIR (DV BUILD-UP)

DATE	CLOSURE TYPE*	PROJECT	Primary**	Other**	Shuttle Bus Service
Aug 9-12	EA	(EA) Prep Lawrence West Track X-Over BWs (S-162 NB (F))	SOGR		WILSON to ST CLAIR WEST
Aug 14	SA	(SA) Lawrence West Turnout Track X-Over BWs S-162 NB (F) and Soft Spot Remediation	SOGR	+ECE	WILSON to ST CLAIR WEST
Aug 15	EA	(EA) SM PEV Beam Replacement 11pm	SOGR		ST GEORGE to BROADVIEW (BD)
Aug 16-18	EA	(EA) Post closure Lawrence West Track X-Over BWs S-162 NB (F) and Soft Spot Remed.	SOGR		WILSON to ST CLAIR WEST
Aug 21	SA	(SA) Power rail, Grout Pads, End inclines	SOGR		MCCOWAN to KENNEDY (SRT)
Aug 21/22	FW	(FW) Eglinton ECLRT (train turnback DAVISVILLE BUILDUP)	ECLRT		LAWRENCE to ST CLAIR (DV BUILD-UP)
Aug 23-26	EA	(EA) Power rail, Grout Pads, End inclines	SOGR		MCCOWAN to KENNEDY (SRT)
Aug 28/29	FW	(FW) Greenwood Yard - Major Maintenance of Switches (S4, S5, S6, S7)	SOGR		GREENWOOD WYE to GREENWOOD YARD (BD)
Aug30-Sep2	EA	(EA) Tie Replacement Rosedale to Bloor	SOGR		ST CLAIR to KING
Sep 4/6	FW	(FW) ECE Kipling 3rd storage track; Bloor St bridgework, Humber River bridgework	ECE		KIPLING to JANE (BD)
Sep 7-9	EA	(EA) Replacement of Wooden Coverboards, and stepboards with Fiberglass CB over 1000'	SOGR		SHEPPARD WEST to WILSON
Sep 11/12	FW	(FW) Eglinton ECLRT (train turnback DAVISVILLE BUILDUP)	ECLRT		LAWRENCE to ST CLAIR (DV BUILD-UP)
Sep 13-16	EA	(EA) YUS Line 1 - C80 Yonge to Front NB install fast clips, new plates	SOGR		KING to ST ANDREW
Sep 18/19	FW	(FW) P4 REVENUE SERVICE	ATC		LAWRENCE to BLOOR
Sep 20-23	EA	(EA) Tie Replacement Rosedale to Bloor	SOGR		ST CLAIR to KING
Sep 25-26	FW	<i>BACKUP (FW) P4 REVENUE SERVICE</i>	ATC		<i>LAWRENCE to BLOOR</i>
Sep 27-30	EA	(EA) Tie Replacement Rosedale to Bloor and	SOGR		ST CLAIR to KING

DATE	CLOSURE TYPE*	PROJECT	Primary**	Other**	Shuttle Bus Service
		NB C82 Low Rail Replacement			
Oct 2/3	FW	(FW) Coverboard Replacement	SOGR	+ECE	KIPLING to JANE (BD)
Oct 4-7	EA	(EA) Tie Replacement Rosedale to Bloor	SOGR		ST CLAIR to KING
Oct 9/11	FW	(FW) ECE Kipling 3rd storage track; Bloor St bridgework, Humber River bridgework	ECE		KIPLING to JANE (BD)
Oct 12-14	EA	(EA) Tie Replacement Rosedale to Bloor	SOGR		ST CLAIR to KING
Oct 16/17	FW	(FW) 10.3 AW60-2 Wilson Retrofit Of Carhouse & Shop Traction Power Pendent System	ECE		SHEPPARD WEST to WILSON
Oct 18-21	EA	(EA) York Mills Turnout prep work & Tangent NB York Mills to Sheppard WR Replacement	SOGR		FINCH TO EGLINTON
Oct 23/24	FW	(FW) Eglinton ECLRT (train turnback DAVISVILLE BUILDUP)	ECLRT	+ SOGR	FINCH to ST CLAIR
Oct 25-29	EA	(EA) York Mills Turnout post closure work	SOGR		FINCH TO EGLINTON
Nov 1-4	EA	(EA) SM Asbestos Abatement, Liners, Leaks	SOGR		FINCH to EGLINTON
Nov 6/7	FW	(FW) Eglinton ECLRT (train turnback DAVISVILLE BUILDUP)	ECLRT		LAWRENCE to ST CLAIR (DV BUILD-UP)
Nov 8-11	EA	(EA) SM Asbestos Abatement, Liners, Leaks	SOGR		FINCH to EGLINTON
Nov 13/14	FW	(FW) YUS Line 1 - C80 Yonge to Front SB and S35, S36 & S37 MM	SOGR		KING to ST ANDREW
Nov 15-18	EA	(EA) SM Asbestos Abatement, Liners, Leaks	SOGR		FINCH to EGLINTON
Nov 22-25	EA	(EA) SM Asbestos Abatement, Liners, Leaks	SOGR		FINCH to EGLINTON
Nov 27/28	FW	(FW) Eglinton ECLRT (train turnback DAVISVILLE BUILDUP)	ECLRT		LAWRENCE to ST CLAIR (DV BUILD-UP)

DATE	CLOSURE TYPE*	PROJECT	Primary**	Other**	Shuttle Bus Service
Nov29-Dec2	EA	(EA) SM Asbestos Abatement, Liners, Leaks	SOGR		FINCH to EGLINTON
Dec 4/5	FW	(FW) NB or SB U60-9 Station Finish St Patrick / Queen's Park Stations Renewal	ECE		SPADINA to OSGOODE
Dec 6-9	EA	(EA) SM Asbestos Abatement, Liners, Leaks	SOGR		FINCH to EGLINTON
Dec 11/12	FW	(FW) Eglinton ECLRT (train turnback DAVISVILLE BUILDUP)	ECLRT		LAWRENCE to ST CLAIR (DV BUILD-UP)
Dec 13-16	EA	(EA) SM Asbestos Abatement, Liners, Leaks	SOGR		FINCH to EGLINTON
Dec 18/19	FW	(FW) Eglinton ECLRT (train turnback DAVISVILLE BUILDUP)	ECLRT		LAWRENCE to ST CLAIR (DV BUILD-UP)
Dec 20-23	EA	(EA) SM Asbestos Abatement, Liners, Leaks	SOGR		FINCH to EGLINTON