

Ontario Line - Construction Impact Assessment and Traffic Mitigation Measures from Gerrard Avenue to Eastern Avenue

Date: January 27, 2021

To: City Council

From: General Manager, Transportation Services

Wards: Ward 14 - Toronto-Danforth

SUMMARY

Metrolinx is constructing approximately 16 kilometres of new subway line (Ontario Line) that will stretch across the city from Ontario Science Centre, southwest to the Exhibition/Ontario Place. In addition, 15 new stations will be constructed along the Ontario Line, which, as currently proposed, will consist of underground and elevated tracks.

Given concerns over the potential construction impacts on traffic and safety for vulnerable road users, impacts on local businesses and access to local amenities, City Council directed staff to engage Metrolinx in the planning process to ensure that there is an appropriate level of traffic modelling and analysis done to properly develop detailed traffic mitigation measures and for that to then flow through into Metrolinx's construction contracts to assure their compliance.

Since there has been insufficient information available to undertake this detailed analysis at the time of this report, Council has directed staff to report on any immediate findings for the assessment of the impact on road works and bridge work to transit and traffic operations between Gerrard Street East and Eastern Avenue.

This staff report provides an overview of the potential construction impacts and preliminary recommendations with respect to traffic mitigation plans.

RECOMMENDATIONS

The General Manager, Transportation Services recommends that:

1. City Council, authorize the General Manager Transportation Services to work with Metrolinx with respect to the Ontario Line planning process to:

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- a. Undertake a detailed modelling exercise to further develop traffic mitigation measures as more information becomes available;
- b. Include the recommended traffic operational constraints identified in this report within Metrolinx's future contracts, regardless of whether an above or below grade option is taken forward, to minimize impacts on traffic and;
- c. Include protections for vulnerable road users in Metrolinx's construction traffic management plans.

FINANCIAL IMPACT

There are no current or known future year financial impacts associated with the recommendations in this report.

The Chief Financial Officer and Treasurer has reviewed this report and agrees with the financial implications as identified in the Financial Impact section.

DECISION HISTORY

At its meeting on January 11, 2021, Infrastructure and Environment Committee requested the General Manager, Infrastructure and Development to report back on the results of the study on the assessment of the impact on road works and bridge work to transit and traffic operations between Gerrard Street East and Eastern Avenue directly to the February 2 and 3, 2021 City Council meeting.

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2021.IE19.10>

At its meeting on October 29, 2019, City Council directed the Deputy City Manager, Infrastructure and Development Services to immediately study the impact on road operations of the significant expansion of the rail bridges at Eastern Avenue, Queen Street East, Dundas Street East, Logan Avenue, Carlaw Avenue and Gerrard Street in order to safely service 6 new tracks and railbed, and the required rebuild of the Lakeshore Bridge as part of the Gardiner take down; and that this information be forwarded to Metrolinx to be considered in their amended Transit Project Assessment Process.

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2019.EX9.1>

COMMENTS

The 16km Ontario Line will stretch across the city from Exhibition/Ontario Place to the Ontario Science Centre. The line will include 15 new stations and, as currently proposed, will consist of both underground and elevated tracks.

Much like any major project, construction of the Ontario Line will have impacts on the City, including at a neighbourhood level and on all modes of transport on the road network. In recognition of this, City Council has requested City staff to engage with Metrolinx to ensure that these impacts are identified at an early stage and any constraints and requirements for impact mitigation are included in the Metrolinx contracts.

At this point in time the information required from Metrolinx to undertake a detailed modelling and traffic mitigation planning exercise is not yet available. However, City staff who have considerable experience in construction planning, methodologies and construction traffic mitigation planning have used professional judgement to make an initial assessment of likely construction impacts and required traffic mitigation on the section between Gerrard Avenue and Eastern Avenue as requested by Council.

Proposed Plan for the Rail Lines between Gerrard Avenue and Eastern Avenue

The Ontario Line alignment will follow the existing GO Rail Corridor between Don River Valley and Gerrard Street East. The GO Rail Corridor will be widened on either side to accommodate the above-grade portion of the subway line, forming a joint track. As a result, Metrolinx will require closures on the public right-of-way to accommodate construction staging operations. The approximate construction timeline for the East Segment is 2022 to 2027.

Based on Metrolinx's preliminary track design, an underground section between the Don River and the tunneled section at Pape Avenue was developed. However, Metrolinx's preferred option is now to build the subway line above-grade based on their assessment that the underground option would have a greater community impact, higher costs and longer construction time.

City staff's initial assessment has included a review and assessment of likely construction impacts and potential traffic mitigation measures for both the above-grade and below-grade scenarios.

Anticipated Construction Impacts

Above-grade Construction

In this scenario, the majority of the track expansion will likely take place on the boulevard, although temporary traffic lane(s) and sidewalk closures would be required to accommodate construction staging operations at the six rail bridges; Don Valley Parkway, Eastern Avenue, Queen Street East, Dundas Street East, Logan Avenue and the intersection of Gerrard Street East and Carlaw Avenue.

Consequently, long term lane(s) closures on the aforementioned roadways can be expected, including occasional full road closures on the weekend.

Below-grade Construction

Construction of a subway tunnel would require a combination of trenching and the use of a tunnel-boring machine. Below-grade construction would require closures on the public right-of-way, similar to the above-grade construction although, given the complexity of these construction methods and extensive building requirements, the roadway disruptions are likely to be longer in duration than that of the above grade scenario. In addition, other additional egress requirements and ventilation shafts may increase the staging requirements above ground while the excavation of soil and delivery of concrete for the underground construction would result in an influx of heavy trucks in the community.

Proposed Traffic Mitigation for both Above or Below-Grade Construction Scenarios

Metrolinx is currently in the process of developing construction staging plans for the impacted arterial roadways. City staff will be working closely with Metrolinx in an effort to minimize impacts to the community, reduce impact to businesses, protect vulnerable road users and reduce congestion. Traffic mitigation strategies will be similar in either above or below-grade scenarios.

The traffic mitigation measures communicated to Metrolinx include the following:

- Sequencing traffic lane(s) closures at the rail bridges to avoid parallel closures;
- Extension of work hours to expedite the construction schedule (within permitted noise by-law hours), thereby re-opening traffic lanes sooner;
- Allowing major road closures to occur on weekends only;
- Maintaining one traffic lane in each direction on arterial roadways at all times;
- Maintaining a safe pedestrian walkway around the construction staging areas;
- Maintaining safe cycling infrastructure through the construction staging areas if and where possible and if not possible, ensuring that viable alternative routes are implemented along with adequate signage and notifications to the public;
- Undertaking detailed modelling so that the full impacts of transit can be assessed;
- Coordinating with TTC to either try to maintain existing routes, or if and when necessary to establish alternative routes;
- Changing signal timing on the impacted roadways and parallel routes to improve travel times;
- Installing advanced warning signage and portable variable message signs to inform motorists of any upcoming road closures;
- Coordinating City's capital works projects and private developments to avoid conflicting road closures;
- Implementing potential road modifications or lane reconfigurations at major intersections to improve traffic flow and reduce delay; and
- Implementing parking amendments around construction staging areas to further enhance traffic flow.

Once more information becomes available from Metrolinx on staging and resulting traffic lane impacts, a traffic model will be developed to simulate the existing traffic conditions and the traffic conditions with the proposed Metrolinx impacts in place to identify the likely impacts and mitigation measures, including, for example, detour routes. City staff will then work with Metrolinx so that the proposed traffic operational constraints and mitigation measures can be included within the Metrolinx contracts and then monitored for compliance.

CONTACT

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SIGNATURE

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