

Traffic Control Signals - Front Street East and Frederick Street

Date: June 13, 2021

To: Toronto and East York Community Council

From: Director, Traffic Management, Transportation Services

Wards: Ward 13, Toronto Centre

SUMMARY

This staff report is about a matter that Community Council has delegated authority from City Council to make a final decision.

Transportation Services has reviewed the need for traffic control signals at the intersection of Front Street East and Frederick Street. Based on the assessment undertaken, Transportation Services does not recommend the installation of traffic control signals at this intersection as the warrant criteria was not met.

RECOMMENDATIONS

The Director, Traffic Management, Transportation Services recommends that:

1. Toronto and East York Community Council not authorize the installation of traffic control signals at the intersection of Front Street East and Frederick Street.

FINANCIAL IMPACT

There is no financial impact resulting from the adoption of the recommendation in the report.

If Toronto and East York Community Council amends the recommendation in this report and authorizes the installation of traffic control signals at the intersection of Front Street East and Frederick Street, the estimated cost is \$200,000. This installation would be considered in 2023 subject to availability of Capital funding and competing priorities.

DECISION HISTORY

On February 16, 2022, Toronto and East York Community Council adopted Item TE31.73 with amendments entitled "Improving Pedestrian Safety at Front Street and Frederick Street" and directed Transportation staff to report back on the feasibility of installing a traffic control signal at the intersection of Front Street East and Frederick Street, and the feasibility of improving pedestrian safety at Front Street East and Frederick Street by accelerating the widening of sidewalks and the removal of boulevard parking. The Toronto and East York Community Council decision can be found at:

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2022.TE31.73>

COMMENTS

Transportation Services was requested by Toronto and East York Community Council to investigate the feasibility of installing traffic control signals at the intersection of Front Street East and Frederick Street.

Existing Conditions

Front Street East is characterized by the following conditions:

- It is a four-lane, east-west, minor arterial roadway
- It operates two-way traffic on a pavement width of approximately 15.2 metres
- The daily two-way traffic volume is approximately 17,000 vehicles
- The speed limit is 40 km/h
- Heavy trucks are permitted at all times
- There is no TTC service provided
- There are sidewalks located on both sides of the street

Frederick Street is characterized by the following conditions:

- It is a two-lane, north-south, local roadway
- It operates two-way traffic on a pavement width of approximately 9.5 metres
- The daily two-way traffic volume is approximately 1,500 vehicles
- The speed limit is 30 km/h
- Heavy trucks are prohibited at all times, south of Front Street East and permitted at all times, north of Front Street East
- There is no TTC service provided
- There are sidewalks located on both sides of the street

Front Street East and Frederick Street form a four-leg intersection. Frederick Street is stop controlled while Front Street East is uncontrolled free-flow.

The adjacent land use in this area is a mix of residential, business and commercial. The Young People's Theatre and public library are located at the southeast corner of the subject intersection.

The closest adjacent traffic controls are located approximately 105 metres to the west, at George Street in form of traffic control signals and approximately 100 metres to the east, at Sherbourne Street in the form of traffic control signals.

A map of the area is included in Attachment 1.

Traffic Control Signals

To determine the need for traffic control signals at the intersection of Front Street East and Frederick Street, staff rely on the justification criteria as outlined in the Ontario Traffic Manual (OTM) Book 12. The OTM justification criteria includes factors such as volume of vehicles and pedestrians, delay to cross traffic, and collision history. In addition to these technical justifications, staff consider an environmental checklist which includes: consideration of road width, posted speed limit, operating speeds, adjacent land uses, pedestrian desire lines and demographics, presence of a transit stop, sight lines, and distance between existing crossing opportunities.

As part of the investigation, staff conducted vehicle and pedestrian counts on November 16, 2021 at the subject intersection. The results of the counts and collision hazard are summarized in Table 1. The "Collision hazard" criterion is based on the number of collisions potentially preventable by the installation of traffic control signals. Collision history provided by the Toronto Police Service for the three-year period ending December 31, 2021 disclosed three collisions at the subject intersection that were potentially preventable by the installation of traffic control signals. Of these collisions, none involved a pedestrian or a cyclist.

Table 1: Warrant Compliance - Front Street East and Frederick Street

Justification	Compliance level
Minimum vehicle volume	52%
Delay to cross traffic (pedestrians and vehicles)	70%
Collision hazard	20%

To meet the justification criteria for the installation of traffic control signals, one of the justifications must be 100 percent satisfied or two of the three justifications must be at least 80 percent satisfied. Based on the technical warrant criteria, the installation of traffic control signals is not justified.

In regards to the environmental checklist, staff completed an assessment and determined that there are no other environmental or external factors that would justify the need for traffic control signals at this time.

Transportation Services does not recommend the installation of traffic control signals as they are not justified based on the technical and environmental criteria that was evaluated.

Widening of Sidewalks and Removal of Boulevard Parking

Staff were also requested to investigate the feasibility of accelerating the widening of sidewalks on Front Street East and the removal of commercial boulevard parking on Frederick Street immediately south of Front Street East. In regards to the sidewalk widening request, the development site at 154-158 Front Street East will be implementing streetscaping improvements on the north side of Front Street East between Frederick Street and Sherbourne Street. This work will include widening of the north boulevard and sidewalk. In regards to the commercial boulevard parking, currently there are seven licensed commercial boulevard parking spaces on Frederick Street just south of Front Street East; 145 Front Street East has four spaces and 165 Front Street East has three spaces. Staff recently inspected these locations and determined they are in compliance with City bylaws.

Other Considerations

If, despite the findings above, Toronto and East York Community Council decides to proceed with installing traffic control signals, the following impacts should be noted:

- There will be a loss of approximately five paid parking spaces on Front Street East associated with the installation of traffic control signals at this intersection. The estimated annual loss of revenue resulting from the loss of paid parking spaces will be \$121,840.
- Delays to traffic on Front Street East: There will be an increase in delays to motorists on Front Street East as a result of the traffic control signal installation.
- Increased queuing: The short spacing to the traffic control signals at Front Street East and George Street and Front Street East at Sherbourne Street is a potential concern with regards to queue storage. Preliminary analysis indicates queues can be accommodated within the existing intersection spacing. However, this may need to be reviewed if problems are reported after the traffic control signals are activated.

The Ward Councillor has been advised of the recommendation in this report.

CONTACT

Dan Clement, CET, Manager Traffic Operations (Area 1), Transportation Services, 416-397-5021 Dan.Clement@toronto.ca

SIGNATURE

for
Roger Browne, M.A.Sc., P. Eng.
Director, Traffic Management, Transportation Services

ATTACHMENTS

Attachment 1: Map - Traffic Control Signals - Front Street East and Frederick Street

Attachment 1: Map - Traffic Control Signals - Front Street East and Frederick Street

