

Missing Link Sidewalk Program: Dwight Avenue Sidewalk Installation

Date: November 18, 2021

To: Infrastructure and Environment Committee

From: General Manager, Transportation Services

Wards: Ward 3, Etobicoke-Lakeshore

SUMMARY

Provision of safe, comfortable and accessible sidewalks on all public streets is a fundamental objective of the Vision Zero 2.0 Road Safety Plan. Sidewalks support safety, accessibility, affordable transportation, physical activity, safe routes to school, aging in place and sustainable growth. Through the Missing Links Sidewalk Installation Program, Transportation Services reviews opportunities to install sidewalks on all roadway classifications through bundling with other state-of-good-repair work, as well as stand-alone delivery.

Dwight Avenue is classified as a collector road. City policy calls for sidewalks on both sides of collector roads. In 2016, Transportation Services received a request from the Toronto District School Board to install a sidewalk on the west side of Dwight Avenue adjacent to Second Street Jr. Middle School.

A sidewalk on the west side of Dwight Avenue adjacent to the school was programmed for construction in 2021 based on opportunity for the work to be bundled with adjacent state-of-good-repair work on Birmingham Street, Murrie Street, and Herman Street. While options to minimize impact on trees were considered as part of the design process, a total of 12 trees need to be removed to construct the sidewalk.

In October 2021, City Council directed the General Manager, Transportation Services to halt this project and report back to the December 2, 2021 Infrastructure and Environment Committee meeting on the feasibility of narrowing Dwight Avenue to accommodate the proposed new sidewalk and save the existing trees. This report provides information in response to that request.

This sidewalk provides an essential missing link in the sidewalk network and is adjacent to a school. Transportation Services recommends proceeding with the sidewalk installation and tree removal based on the current design and enhanced replanting plan

that is proposed which includes 17 trees to be replanted in this location to continue growing Toronto's tree canopy.

RECOMMENDATIONS

The General Manager, Transportation Services recommends that:

1. City Council request the General Manager, Transportation Services to continue with the planned construction of a new sidewalk on the west side of Dwight Avenue from Birmingham Street to Maple Boulevard.

FINANCIAL IMPACT

The tendered cost of the contract award for construction of the Dwight Avenue sidewalk identified in this report is \$194,897. Funding is available within the approved 2021-2030 Capital Budget and Plan for Transportation Services in account CTP419-01 RSP Missing Link Sidewalks.

Funding required for ongoing maintenance costs will be considered as part of future operating budget submissions for Transportation Services.

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

DECISION HISTORY

On October 1 and 4, 2021, City Council directed Transportation Services to halt the tree removal on Dwight Avenue until such time that staff can study the feasibility of narrowing Dwight Avenue.

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2021.MM36.36>

COMMENTS

Overview

Sidewalks are a critical piece of infrastructure and provide a safe and accessible route for people to travel in the neighbourhood. Sidewalks support safety, accessibility, affordable transportation, physical activity, safe routes to school, aging in place and sustainable growth. These themes are reflected in the City's Official Plan (2004), Pedestrian Charter (2002), Walking Strategy (2009), Seniors Strategy (2013), Healthy Streets (2014), Road Safety Plan (2016), and Vision Zero 2.0 Road Safety Plan Update (2019), among others.

Transportation Services reviews opportunities to install sidewalks on all roadway classifications through bundling with other state-of-good-repair roadway or utility work, as well as stand-alone delivery. Sidewalks are built, where they are missing, on both sides of arterial and collector roads, and on one or both sides of local roads.

Dwight Avenue is classified as a collector road and City policy calls for sidewalks on both sides. Between Lake Shore Boulevard West and Maple Boulevard, there are existing sidewalks on both sides of Dwight Avenue, but immediately north of Maple Boulevard there is only a sidewalk on the east side of the street.

Transportation Services received a request from the Toronto District School Board to install a new sidewalk on the west side of Dwight Avenue between Maple Boulevard and Birmingham Street in 2016. A sidewalk request was also included in the Second Street Jr. Middle School Travel Plan to support students walking to school.

Dwight Avenue sidewalk was programmed for construction in 2021 based on an opportunity to bundle with construction on adjacent road works on Birmingham Street, Murrie Street, and Herman Street. The planned sidewalk design includes a new 1.8 metre sidewalk on the west side of Dwight Avenue. As with all new sidewalk infrastructure, this project includes tactile walking surface indicators and curb ramps at all crossings.

Tree Impacts

As part of all road projects, minimizing impacts to existing trees was considered, as well as planting additional trees and enhancing conditions. An arborist report was completed, including an impact assessment which compared the extent of tree dripline and Tree Protection Zones with the proposed disturbance limits as a result of the new sidewalk on the west side of Dwight Avenue. A total of 12 trees require removal. Trees recommended for removal include City-owned trees within or outside the disturbance limits that would not be able to withstand construction related impacts.

Urban Forestry advised that the trees would not be able to survive sidewalk construction due to the proximity of the proposed excavation to the base of the trees and the required grading to ensure proper drainage towards the existing catch basins. The distance from the line of excavation to the base of the existing trees varies between 0.3m to 0.7m and as a result the trees would not withstand the injury.

A total of 12 trees require removal:

- Three of the existing trees are European Ash trees. Urban Forestry no longer plants ash trees through the City's tree planting programs, due to the threat of invasion by an invasive forest insect pest known as the 'Emerald Ash Borer' (EAB). EAB is an introduced forest pest that attacks and kills all species of ash unless they are treated, on a repeated basis, with a pesticide effective against EAB. Urban Forestry is currently treating these trees against Emerald Ash Borer.
- Seven of the existing trees are Norway Maple trees. Although considered invasive species, healthy Norway Maple trees are not proactively removed from City streets. This tree species makes up a significant portion of the tree canopy. Although the City of Toronto's Urban Forestry unit preserves Norway Maple trees on streets, it is no longer a species planted through the City's tree planting programs.

- Two of the existing trees are a Hackberry tree and an American Elm 'Valley Forge' tree, are small and newly planted in June 2019.

Alternative options have been considered through the design process and further investigated on-site to minimize impact on trees. However, tree removal/injury is still required in these cases. Alternative options considered include:

- Curbside sidewalk: Since the 12 trees are located in the middle of the boulevard, tree removal would still be required. This alternative would also require removal and replacement of three existing catch basins to maintain drainage in the boulevard.
- Reduce the width of the sidewalk to 1.5m: Given the location of the 12 trees and roots, excavation of the critical root zone is still required and thus tree removal would still be required.
- Reduced road width: Road reconstruction is not programmed in the near term and road widths and this option would likely still require tree removal. Further details on this option are detailed later in the report.
- Sidewalk on school property: Fence removal would be required which is likely to result in tree injury. There would be issues with drainage towards the school property and this alignment would produce an undesirable pedestrian path as the sidewalk would travel through the school parking lot.

Given the proposed trees removal as a result of the planned sidewalk construction, an enhanced replanting plan was created which includes 17 trees to be replanted in this location to continue growing Toronto's tree canopy. Since ecosystems are dependent on environmental conditions such as moisture and light, the proposed species selected represent trees expected to adapt well in the community. The proposed tree types include six common Horse-Chestnut trees, five Red Oak trees and six Valley Forge Elm trees.

Community Consultation

A public meeting was held virtually in September 2021 to share the above details and receive feedback from the community. Further details on the project and public consultation materials found at www.toronto.ca/Dwight. The local Councillor has been consulted on the proposed project.

An online petition in opposition to tree removal as part of the sidewalk project was received following the public consultation. The petition supports the installation of an accessible sidewalk along Dwight Avenue, but requests the City to narrow Dwight Avenue to achieve this goal, rather than remove the twelve trees.

Feasibility of Narrowing Dwight Avenue to Save the Existing Trees

As directed by City Council in October 2021, Transportation Services has assessed the feasibility of narrowing Dwight Avenue to accommodate the proposed new sidewalk and save the existing trees.

The width of Dwight Avenue between Maple Boulevard and Birmingham Street ranges from 9.8 metres to 10.6 metres. In the widest section near Birmingham Street there is a

left turn lane which extends south for approximately 70 metres. Parking is prohibited on this section of Dwight Avenue.

As per the City of Toronto Road Engineering Design Guidelines - Lane Width Guidelines, the minimum lane width for a road with posted speed of 40 km/hr is 3.3 metres. This would mean that Dwight Avenue could be narrowed to 6.6 metres with no parking or loading allowed and 9.9 metres near Birmingham Street to retain the left-turn lane.

Narrowing the roadway would still require tree removal, although the extent would need to be confirmed through a detailed design process. Shifting the curb to narrow the roadway would have impacts on the trees due to the size of required excavation for form work. Further, road narrowing would require the centreline to be shifted to the east for a proper roadway crown. This would necessitate the west half of the road to be reconstructed, thereby requiring excavation.

Both of these factors, the excavation and half-width road reconstruction require work within Tree Protection Zones. Some of the smaller trees would be the most likely to be retained, as their Tree Protection Zones are smaller and therefore the impact to those trees would be less.

Transportation Services also reviewed the potential to remove the left-turn lane to determine if it would reduce the impacts to the trees. Findings of this review are as follows:

- If the left-turn lane were to be eliminated and the road is narrowed, lanes could be reduced to minimum 3.3m as per City's guidelines.
- The required shift in centreline alignment for motor vehicles travelling southbound would exceed the maximum allowable shift of 1.5m through the Dwight Avenue and Birmingham Street intersection.
- As per the Transportation Association of Canada (TAC) manual this would create unsafe conditions, which could be mitigated through the use of a more gradual taper to direct drivers into the southbound lanes on Dwight Avenue south of Birmingham Street.
- A roadway taper would be required and would lead to the removal of the two to four trees near the southwest corner of the Dwight Avenue and Birmingham Street intersection.
- Ultimately, elimination of the left-turn lane and narrowing the road would require more extensive grading changes behind the new sidewalk, in addition to the relocation of existing catch basins to ensure proper drainage. This could lead to additional tree removals, but it could only be confirmed through a detailed design process, Urban Forestry review and a consulting arborist.

The construction of the new sidewalk on the west side of Dwight Avenue between Maple Boulevard and Birmingham Street is based on the opportunity to bundle sidewalk construction with adjacent state-of-good-repair work on Birmingham Street, Murrie Street, and Herman Street.

Narrowing Dwight Avenue is beyond the scope of the existing contract, as it would require the half-width road reconstruction. Dwight Avenue was last reconstructed 38 years ago and a road reconstruction typically takes place every 75 to 100 years. Road reconstruction on this section of Dwight Avenue is not currently programmed in the near-term capital works plan, and would be scheduled when required based on condition of the road.

In summary, shifting the curb and building the sidewalk along the curb side will have impacts on the trees as the construction of the sidewalk and required excavation to narrow the road will still be within the Tree Protection Zones. If the road was narrowed, it is possible that some of the smaller trees could remain, but could not be delivered as part of this near-term work.

This sidewalk provides an essential missing link in the sidewalk network and is directly adjacent to a school. For safety and accessibility Transportation Services recommends proceeding with tree removal and sidewalk installation based on current design and enhanced replanting plan that is proposed which includes 17 trees to be replanted in this location to continue growing Toronto's tree canopy.

CONTACT

Jacquelyn Hayward
Director, Project Design & Management
Transportation Services
Tel: (416) 392-5348
Email: Jacquelyn.Hayward@toronto.ca

SIGNATURE

Barbara Gray
General Manager, Transportation Services