



Report to: Development Services Committee

Meeting Date: March 28, 2022

SUBJECT: Sidewalk Network Completion Program Update (City-Wide)
PREPARED BY: Joseph Palmisano, Manager, Transportation Planning, Ext. 6200
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RECOMMENDATION:

- 1) That the report entitled “Sidewalk Network Completion Program Update (City-Wide)” be received; and
- 2) That Council endorse the revised Sidewalk Network Completion Program with completion by 2030 in accordance with the recommended program and implementation process as described in this report and Attachment ‘E’; and
- 3) That Council endorse the revised Sidewalk Network Completion Program at a cost of \$33.86M, of which \$22.0M will be funded from Development Charges reserve and \$11.86M from other Non-Development Charges sources (funded through a combination of the Community Benefit Charge (CBC) and non-development related revenues – i.e. Non-DC growth reserve); and
- 4) That the Director of Engineering, be authorized to make project schedule adjustments in the Sidewalk Network Completion Program, based on the findings of a constructability review of the remaining sidewalk projects; and
- 5) That staff provide an annual update on the status of the Sidewalk Network Completion Program including any adjustments made to the program; and
- 6) That the annual incremental amount of \$44,725 be added to the operating budget for the years 2024 to 2030 for sidewalk maintenance, subject to Council approval through the annual budget process; and further
- 7) That staff be authorized and directed to do all things necessary to give effect to this resolution.

EXECUTIVE SUMMARY:

- In May 2017, Council directed staff to prioritize closing sidewalk gaps on arterial and collector roads and updated the City’s sidewalk policy to include sidewalk on both sides of major and minor collector roads.
- In December 2018, Council approved the 10-year Sidewalk Network Completion Program that identified 64.6 km of sidewalk gaps on arterial and collector roads.

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- As outlined in the Dec. 2018 Council report, since the sidewalk program was limited to the existing funding allocation of \$4.82 M within the 2017 Development Charges (DC) Background Study, progress on the program was focused on preparing a continuous stream of shovel-ready projects for construction starting in 2023 when further funding from the next DC Background Study is available.
 - The following is the status of the sidewalk network completion program:
 - \$4.71M of the available \$4.82M of funding in the 2017 Development Charges (DC) Background Study has been requested and approved.
 - 0.79 km of sidewalk locations identified in the program were constructed, and another 1.73 km of sidewalk project has been awarded and are scheduled to commence construction in Spring 2022, and completed by end of 2022.
 - An additional 2.88 km of sidewalks have been designed and are scheduled to be tendered by March 2022 and constructed by end of 2022.
 - The detailed design of another 8.6 km of sidewalks are scheduled to be completed in 2022, with construction to be programmed for 2023 and 2024 when further funding will be available from the approval of the new Development Charge Background Study in 2022.
 - The revised sidewalk capital plan, showing design and construction program timing of the remaining sidewalk projects are presented in Attachment ‘E’, with the Sidewalk Network Completion Program being scheduled to be fully constructed by 2030.
 - To provide for improved schedule and budget certainty for the remaining sidewalk projects within the program, a constructability review of the remaining projects will be conducted to identify constraints and any other significant issues.
 - Staff have developed a more comprehensive community communications/notification protocol to address issues raised by residents.
 - With unit cost for sidewalk construction increasing from the previous estimate in 2018 of \$315/m to the current estimate of \$592/m, the capital construction costs are being incorporated into the current update of the Development Charge Background Study.

PURPOSE:

This report provides an update on the progress of the Sidewalk Network Completion Program since Council approval of the program in December 2018. It also seeks Council’s endorsement of the revised Sidewalk Network Completion Program by 2030 in accordance with the recommended program and implementation process as described in this report.

BACKGROUND:

On May 23, 2017, Development Services Committee (DSC) received a staff report entitled “Infill Sidewalk Prioritization Process and Methodology”. That report provided information on:

- Health and safety benefits of a comprehensive sidewalk network;
- Sidewalk policy for arterial, collector and local roads;

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- Sidewalk network inventory by ward; and
 - Five-step sidewalk infill process and methodology.

The report recommended that sidewalk gaps on arterial and collector roads be prioritized as most community amenities and services (e.g. employment areas, schools, public transit, community institutions, parks, etc.) tend to be located along these corridors. Council endorsed the report recommendations and directed staff to provide a capital program and phasing plan to prioritize and significantly complete the sidewalk network on collector and arterial roads within 5 years. Council also endorsed the clarification that sidewalks are to be provided on both sides of all collector roads, to be consistent with arterial roads.

On November 13, 2017, DSC received another staff report entitled “City-wide Infill Sidewalk Five-Year Capital Plan”. The report included a proposed 5-year capital plan for higher priority locations to be completed over the period of 2019 to 2023. Council endorsed the report recommendations.

On December 11, 2018, DSC endorsed a report entitled “Arterial and Collector Road Sidewalk Program, All Wards”. The report summarized the program planning and funding implications to complete the sidewalk program over the period of 2019 to 2028. In addition, Council approved the Sidewalk Completion Program and directed staff to develop a detailed public communications plan for the sidewalk completion program starting in 2019 and to provide a status update by 2022. The report also highlighted that staff would work within the existing funding of \$4.82 M in the 2017 Development Charges (DC) Background Study until the next DC Background Study was approved.

On June 10, 2019, DSC received a memorandum, entitled “Arterial and Collector Road Sidewalk Completion Program, Communications Plan”. The memorandum, included as Attachment A’, summarized, for the information of Council, a City-wide communications plan that was developed to maximize exposure and awareness of the Sidewalk Completion Program.

Sidewalk Network Completion Program Aligns with City Policies

The Sidewalk Network Completion Program prioritizes sidewalk gaps on arterials and collector roads, and aligns with City policies:

- Markham’s 2014 Official Plan objective “*to develop a transportation system that increases mobility options for all road users, including pedestrians, cyclists, and transit riders...*” and the policy of Council: “*7.1.4.2 To support walking and cycling throughout Markham as competitive mobility choices for everyday activities such as work, school, shopping, business and leisure by:*
 - a) *Creating a more pedestrian-friendly environment that is interconnected by a network of safe, direct, comfortable and convenient pedestrian routes that are suitable for year-round walking.*
 - b) *Designing, constructing and integrating new streets and retrofitting existing streets, where appropriate, to focus on the needs of pedestrians, cyclists and*

persons with disabilities and ensuring safety, accessibility, convenience, and comfort of all street users are considered.”

- Markham’s Sustainability Plan (2011) direction to equitably design streets so that walking and cycling are safe, efficient and viable year round.
- The Accessibility for Ontarians with Disabilities Act (AODA), by removing barriers to ensure communities and facilities are accessible for all Ontarians.

Per the existing City’s Markham sidewalk policy, sidewalks are to be provided on both sides of arterial and collector roads. The May 23, 2017 staff report, endorsed by DSC, clarified and confirmed that minor collector roads are also to have sidewalks on both sides given the similarities between minor and major collector roads in terms of the role and function of these roadways.

Sidewalk Network Completion Program provides Health and Safety Benefits

Markham’s resident and working population will continue to increase significantly over the next 20 years, and in turn, an increase in travel demand is expected. It is not sustainable, nor physically possible, to accommodate the increasing travel demand focusing on personal vehicles as the only mode of transportation. It will only increase congestion and travel times experienced in our communities. Other transportation options - such as walking, cycling and transit - are vital in moving people more efficiently between places and in sustaining the health and economy of our community.

A sidewalk network is a unifying infrastructure where every trip begins and ends with walking, whether it is by automobile, transit, or bicycle. In order to meet the City’s goal of creating a complete multi-modal transportation system, and to encourage walking and transit use, gaps in the sidewalk network must be closed.

Sidewalks also promote in-place aging, which is an important part of complete communities. This was recognized by the Committee for an Age-Friendly Markham, which recommended to DSC in March 2019 *“That, in order to provide a safe environment for seniors and others wishing to walk for exercise and/or walk to services, the City target the “Finish-Date” of its Sidewalk Completion Program for Arterial and Collector Roads by 2026 or earlier.”* Sidewalks are instrumental in supporting an active lifestyle for all residents which results in positive community health outcomes including contributing to decreasing the rate of heart disease, diabetes, obesity, depression and certain cancers.

Sidewalks provide the safe, physical space that is closest to home for the most vulnerable road users such as seniors, people with disabilities and families with small children, for exercise and fresh air.

Sidewalk gaps, even minor ones, disrupt the continuity and connectivity of the pedestrian network and affect the safety and convenience of walking. This safety issue impacts particularly the most vulnerable such as seniors, people with disabilities and families with small children, and especially during night time and winter months when crossing a street is most risky.

In summary, sidewalks are a critical component of healthy and sustainable communities as they:

- ***Increase mobility and accessibility options*** for pedestrians, transit users, and cyclists. People of all ages and abilities benefit from being able to travel safely and easily within our city.
- ***Promoting active, healthy lifestyle*** by encouraging active and safe travel for children, youth, seniors, people with disabilities and other members of the community as a whole, resulting in positive health outcomes. Sidewalks provide a place for people to engage with the outdoors such as strolling, learning to ride a bike, playing hopscotch and walking to work, school or a friend's home.
- ***Facilitate and enhance neighbourhood and community cohesion*** through better connections to public spaces that provide opportunities for social interactions such as parks, playgrounds, schools and community centres.
- ***Encourage less and slower traffic*** as an inviting pedestrian environment naturally encourages less driving and more walking. Meanwhile, increased pedestrian activity provides visual cues that draw motorists' attention – leading to a higher sense of awareness and tendencies for motorists to slow down.

Implementation of the Sidewalk Network Completion Program has been progressing within the available funding allocation

The 2019-2028 Sidewalk Network Completion Program approved by Council in December 2018 prioritizes sidewalk gaps on arterial and collector roads. The status of sidewalk network gaps on arterial and collector roads as reported in 2018 is summarized in Table 1 below.

Table 1: Summary of Sidewalk Gaps in 2018

Sidewalk Gaps	Length (km)
Total gaps (A)	111.6
Under construction (B)	4.3
Outside of urban boundary (C)	13.9
Deferred due to constructability issues (D)	7.7
Remaining gaps (E) = (A) – (B) – (C) – (D)	85.7
To be constructed through other projects (F)	21.1
To be programmed (G) = (E) – (F)	64.6

A total of 64.6 km of sidewalk gaps are in the City's 2019-2028 Sidewalk Network Completion Program. This sidewalk program as approved by Council anticipated an average annual construction of 6.5 km of sidewalks at \$2 million based on an estimated unit cost of construction of \$315/m. The list of these sidewalk projects, with some basic parameters (project location, length of gap, arterial or collector road), is shown in Attachment 'B'.

Staff had also identified that only \$4.82M funding was available in the current Development Charge Background Study, which limits the City's ability to design and construct much of the sidewalk program. With this funding limitation, the approach taken by staff was to program activities from 2019 to 2022 that maximizes the available funding of \$4.82M, leading to a stream of shovel-ready projects for construction in 2023 and beyond when funding from the new Development Charge Background Study will be available going forward. To date, \$4.71M of the available \$4.82M have been spent or approved for the sidewalk completion program.

Therefore, since the December 2018 Council program approval to this year, program activities has been focused on planning and detailed design work to ensure projects would be available and ready for construction for the following years. In that regard, the following design and construction projects were awarded or are being tendered between 2019 and this year:

Table 2: Summary of Sidewalk Program Activities from 2019 to 2022

Year	Design (km)	Construction Completed (km)
Prior to 2019	1.46	
2019	4.61	0.10
2020	4.11	0.71
2021	5.12	
2022		4.61*

*tender being prepared for release in March/April 2022

These activities have resulted in the following status for the Sidewalk Program:

- Completed 4.61 km of sidewalk design for construction in 2022. Construction budget is approved and these sidewalk projects, except for one, are being tendered;
- Completing design on another 9.9 km of sidewalks in 2022. Construction budget for this group of sidewalk projects will be requested for 2023 and beyond through the capital budget approval process;

Attachment 'C' lists the detail sidewalk projects summarized above. Therefore, by the end of this year, the Sidewalk Program would have 47.3 km of sidewalks left to be designed and 57.2 km left to be constructed.

1 km of sidewalks on local streets were also completed

In addition, between 2019 and 2021, approximately 1 km of sidewalks on local roads (i.e. outside of the Sidewalk Network Completion Program) were completed in response to requests from local residents and in consultation with Ward Councillors to address pedestrian safety concerns.

A public communications plan was developed and is being implemented

The completion of the program sidewalk projects is often challenged by directly impacted property owners. Property owners typically object to the installation of sidewalks along

their frontage as it may impact their existing uses and/or appearance. Individual concerns in residential areas typically relate to loss of parking on driveways, privacy, and impacts to street trees or landscaping. As a result, a sidewalk project may be significantly delayed while these concerns and impacts are being addressed.

To improve communications and sharing of information on the Sidewalk Completion Program, a comprehensive, City-wide, communications plan for the program was developed and outlined in the June 10, 2019 staff memorandum to DSC. The communications plan was developed with Corporate Communications and is premised on low cost, high impact marketing and advertising to maximize exposure and awareness of the sidewalk program. Where possible, City assets (e.g. electronic information boards, web portal, social media) will be used to minimize costs. The cost-effective tactics being used in the communications plan include:

- Road-side mobile signs;
- Ads in newspapers;
- Social media campaigns;
- Posters/pamphlets at City facilities;
- Digital marquees at City facilities;
- Electronic information boards at City facilities; and
- Web portal for the sidewalk program.

Having a consistent and recognizable visual brand is important in promoting recognition of this program. Incorporating elements from the logo for the Active Transportation Master Plan, the Sidewalk Completion Program logo was developed to further reinforce the brand and support the objective of increasing mobility options for all road users.

The Sidewalk Completion Program web portal (www.markham.ca/sidewalkprogram) was developed to provide extensive program and project information, including conveying the benefits of the program, construction program, project status, Council reports, and Frequently Asked Questions.

A poster/pamphlet about the sidewalk program is being finalized and will be made available at tri-stands in City-owned facilities, such as the Civic Centre and community centres. A draft copy of the pamphlet is provided in Attachment 'D'.

OPTIONS/ DISCUSSION:

Accelerating the program was recommended by the Committee for an Age-Friendly Markham, however, given current conditions, any acceleration would be very difficult and not recommended

As noted above, at the March 18, 2019 DSC, the Committee for an Age-Friendly Markham presented a series of recommendations, including one calling for the Sidewalk Completion Program to be accelerated.

Considering the continuing impacts and delays such as increased costs from health and safety requirements and material availability due to the COVID-19 pandemic, adding to the challenges associated with sidewalk projects including property requirements, utility

relocations, impacts to mature trees, and resident/stakeholder support, staff is not recommending that the program completion be accelerated.

A constructability review for the remaining sidewalk projects will be conducted to improve scheduling of design and construction stages

To identify project constraints that may lead to higher capital costs and longer lead times prior to construction, a constructability review for the remaining sidewalk projects, within the program, will be conducted. Staff will be engaging an engineering consultant to undertake this constructability review and will seek appropriate capital budget approval through the 2023 budget process for this work. Based on the findings of the constructability review, adjustments to the program schedules may be necessary.

Preliminary and detailed design work must precede construction by at least 1 year

Upon constructability confirmation, the necessary preliminary and detailed design work must be completed before the capital construction budget is approved and construction contract awarded for the annual projects. Mitigation strategies will be developed through the preliminary and detailed design stages to mitigate the impacts such as land/property requirements, mature trees, and utility conflicts, identified through the constructability review, which may result in schedule delays and budget increases. In that regard, projects are scheduled for design activities generally one year ahead of the construction project schedules.

A revised capital plan to deliver the remaining sidewalk program requires the program completion date to be extended to 2030

Given the remaining 47.3 km of sidewalk projects to be designed and 57.2 km to be constructed and constraints and challenges associated with sidewalk construction projects, staff recommends that the program completion date be extended to 2030 from the original 2028.

The revised capital plan project priorities have been determined based on the criteria previously established and endorsed by Council in the November 13, 2017 report:

- Road classification (i.e., arterial vs collector);
- Access to major destination(s) (e.g., schools, employment areas, shopping malls, recreation centres, parks, places of worship, etc.);
- Access to public transit (e.g., the sidewalk gap is on a transit route);
- Missing link (or mid-block gap) in the sidewalk network; and
- Traffic volumes on the road (i.e., Annual Average Daily Traffic).

The resulting list of prioritized sidewalk projects in the capital plan (from 2022 to 2030) is shown in Attachment 'E' and a summary of the program is provided in Table 3. Staff recommend that Council endorse the use of this list as the basis for programming the annual sidewalk capital projects going forward.

Table 3: Summary of Revised Sidewalk Capital Program

Construction Year	Proposed Km of Sidewalks
2022	4.61
2023/24	9.38
2024/25	8.49
2025/26	8.61
2026/27	8.45
2027/28	8.49
2028/29	8.43
2029/30	5.42

Staff to investigate the use of alternative service delivery model to complete the Sidewalk Program

Engineering Department will be investigating the incorporation of alternate delivery models for the design of projects for the the sidewalk program, such as issuing multi-year program management consultant assignments to improve and streamline the planning and design process. Further, staff will work to expedite the pre-construction and construction stages of the sidewalk program through bundling of projects and multi-year contracts to meet the program completion timelines.

An improved resident communications/notification protocol has been developed

Currently, residents and businesses directly impacted by sidewalk projects are notified three times, starting at the commencement of detailed design. These notices provide information related to the project schedule, information to be provided to the City (e.g. private landscape features, etc.), and project contacts.

This has led to resident complaints about insufficient prior notification of the sidewalk projects being planned that may directly affect them.

With a timeline identified for every sidewalk project in the new, revised capital plan , affected residents and businesses can be notified earlier in the implementation process.

Under the revised resident and business notification protocol, affected residents and businesses will be notified (including regular website updates) at the following key milestones in the process:

- At the constructability review stage;
- At initiation of preliminary design;
- At initiation of detailed design;
- At initiation of pre-construction;
- Prior to commencement of construction;
- Regular construction updates.
- Post construction update

The actual measures and tools for the revised notification protocol will be developed in consultation with Corporate Communications to determine the most cost effective as well as ensuring maximum awareness of the planned sidewalk projects.

FINANCIAL CONSIDERATIONS

Average project cost has increased significantly since 2018

The development of the 10-year sidewalk program in 2018 and projected ability to complete the initial 64.6 km of sidewalks was based on the average cost of \$2.0 million to design and construct about 6.5 km of sidewalks per year. That equates to a unit cost of roughly \$315 per metre of sidewalk.

This \$315 per metre average unit cost only included costs associated with the detailed design and construction of standard sidewalk projects. It did not include costs associated with additional scope and measures to mitigate impacts and issues related to the installation of a standard sidewalk. With the remaining project locations for the sidewalk program located in more established neighbourhoods and within constrained rights of way, staff have estimated that a more realistic average per metre cost estimate for completing the sidewalk projects would be \$592 per metre. This revised cost estimate is reflective of the actual costs from recent sidewalk tenders awarded in 2019 to 2021. It is important to note that due to the pandemic impacts and other world events, the estimated unit rates may be even higher as a result of inflation and material supply shortages.

An increase in annual sidewalk program budget is necessary to complete the sidewalk program by 2030

After the 2022 construction projects, a total of 57.2 km of sidewalk projects remains to be constructed and funded to complete the 2030 program. That equates to an average of 7.15 km to be constructed and \$4.23M capital funding per year from the previous annual average of \$2.0M.

Development Charges Bylaw update will consider remaining funding needs of the sidewalk program

The 2017 Development Charges Background Study (DCBS) included \$4.82M for the sidewalk program. Staff are currently in the process of updating the Development Charge Background Study and have included \$33.86M (57.2 km x 1000 x \$592/m) for the revised sidewalk completion program to fund the remaining 57.2 km of sidewalk projects to be constructed at the updated unit cost of \$592 per metre (from the previous \$315 per metre).

Sidewalk projects identified in the draft DC Bylaw Update are funded 65% from the Citywide Hard Infrastructure Development Charges and the 35% from Non-DC sources. In other words, of the \$33.86M, \$22.0M will be funded from Development Charges and \$11.86M from other Non-DC sources.

In the draft Development Charge Background Study, 50% of the Non-DC funding will be from the Community Benefit Charge (CBC) and 50% from other non-development related revenues (i.e. Non-DC growth reserve). By committing the CBC and non-

development related revenues to the sidewalk completion program, the funding for the delivery of other future City initiatives may be impacted.

Other City initiatives, that could potentially be funded through CBC, include:

- Automated Waste Management (AVAC system)
- Roads & Other Related Infrastructure (non-DC share)
- Urban Parks
- Parking
- Community Facilities
- Public Realm & Public Art
- Affordable Housing
- Administration of CBC program (e.g. staff costs)
- Markham District Energy Expansion

Other non-development related revenues on the other hand may be used to fund the non-development charge portion of anything in the Development Charge Background Study.

The above is subject to the approval of the new Development Charge Background Study and the CBC study in May 2022.

All capital project budgets will be requested through the annual capital budget approval process.

Operations budget for sidewalks will increase as more sidewalks are completed

The operating and maintenance as well as life cycle costs, are subject to the final design and operational requirements. Currently, the annual operating and maintenance unit cost is \$6.25 per linear metre of sidewalk, resulting in, on average, an additional incremental \$44,725 (7,156 m x \$6.25/linear metre) annually in operating and maintenance costs for the next 8-year period of the Sidewalk Completion Program. The actual incremental cost will be subject to the length of sidewalk constructed in each year, and will be requested as part of the annual operating and capital budget process.

As sidewalks are added to City infrastructure inventory, the Life Cycle reserve will be updated accordingly. As the useful life of sidewalks are 40 years, there is no immediate impact to the life cycle reserve over the next 25 years.

Alternative funding source needed for local road sidewalk projects

As has occurred in the past, requests for sidewalks on local roads are received and considered from a pedestrian safety perspective. To preserve budget for the Sidewalk Network Completion Program, which is focused on arterial and collector roads, separate funding must be identified for these local road sidewalk projects. Staff will work with the Finance Department to identify the funding need for each local road sidewalk project and ensure that the project is identified through the following year capital budget request.

HUMAN RESOURCES CONSIDERATIONS

Not applicable.

ALIGNMENT WITH STRATEGIC PRIORITIES:

The sidewalk program aligns with the strategic focus for a Safe & Sustainable Community, through the on-going management of the City’s transportation network. It is also consistent with various policies in the City Official Plan on complete communities, City-building and encouraging more and safer active transportation in Markham.

BUSINESS UNITS CONSULTED AND AFFECTED:

Operations and Finance departments have been consulted and have reviewed this report.

RECOMMENDED BY:

Frank Clarizio, P.Eng.
Director, Engineering

Arvin Prasad, MCIP, RPP
Commissioner, Development Services

ATTACHMENTS:

- ‘A’: June 10, 2019 Memorandum to Development Services Committee, entitled “Arterial and Collector Road Sidewalk Completion Program, a Communications Plan”.
- ‘B’: 2019-2028 Sidewalk Network Completion Program as approved by Council.
- ‘C’: Sidewalk design projects in progress and completed.
- ‘D’: Draft Pamphlet for the Sidewalk Network Completion Program.
- ‘E’: Recommended Revised 2023-2030 Sidewalk Network Completion Plan – Design and Construction.