



Report to: Development Services Committee

Meeting Date: November 28, 2023

SUBJECT: Markham Centre Trail, Master Plan Study (Wards 2, 3 and 8)
PREPARED BY: Alberto Lim, Engineer, Capital Works
REVIEWED BY: Salia Kalali, Manager, Infrastructure and Capital Works
Alain Cachola, Senior Manager, Infrastructure and Capital Works

RECOMMENDATION:

- 1) That the report entitled “Markham Centre Trail, Master Plan Study (Wards 2, 3 and 8)”, be received; and,
- 2) That the conceptual preferred trail route for the Markham Centre Trail, as set out in the Master Plan Environmental Study Report (ESR), be endorsed by Council; and,
- 3) That City staff be authorized to issue a Notice of Study Completion and file the Master Plan Study for Markham Centre Trail with the Ministry of the Environment, Conservation and Parks (MECP); and,
- 4) That City staff report back to Development Services Committee following the completion of the Markham Centre Secondary Plan Study and the Yorktech Drive Extension Environmental Assessment process to present the overall implementation program for the remaining sections of the Markham Centre Trails including timelines and a funding source assessment; and further,
- 5) That City staff be authorized and directed to do all things necessary to give effect to this resolution.

PURPOSE:

The purpose of this report is to seek Council’s endorsement of the conceptual preferred trail route, as set out in the ESR, for the Markham Centre Trail from Apple Creek Boulevard to Main Street Unionville, and also authorization to file the Master Plan Study with MECP.

BACKGROUND:

Markham Centre is experiencing extensive development activities and is anticipated to continue to experience significant growth over the next ten years.

In 2004, Council approved the Markham Centre Greenland Master Plan (MCGMP) which set out the framework for potential trail network within the Markham Centre. Three (3) trail segments (Phases 1-3), identified in the MCGMP and shown below in **Table 1 and Attachment G**, were advanced and proceeded to detailed design and construction as they were short in length with no pedestrian crossings and relatively low costs of construction.

Table 1 – Advanced Trail Segments in Markham Centre

Phase	From	To	Length (km)	Designed	Construction	Construction Cost (\$M)
1	Warden Ave. (N. of Rouge River)	Birchmount Rd. (N. of Rouge River)	0.85	2019 – 2020	2021	\$1.25M
2	Birchmount Rd.	Sheridan Ponds	0.35	2021 – 2022	2022	\$0.36M
3	Warden Ave. (S. of Rouge River)	Verclaire Gate. (S. of Rouge River)	0.46	2023	2024	\$1.40M

The remaining segments of the trail network, noted in the MCGMP, are about 8 km in length from Apple Creek Boulevard to Main Street Unionville which includes three (3) underpasses and potentially seven (7) pedestrian crossings over the Rouge River. Based on the Environmental impacts of underpass crossings and the total project cost exceeding the MECF threshold of \$9M, these segments are required to follow a Schedule C Municipal Class Environmental Assessment (MCEA) study.

See **Attachment A** for the plan of Markham Centre EA Study Area.

Markham Centre Trails MCEA Study

In October 2019, the City retained RJ Burnside to carry out the Schedule C MCEA study for Markham Centre Trail from Apple Creek Boulevard to Main Street Unionville, that included the following scope of work:

- Review existing conditions and potential routes of a trail network and identify opportunities for improvements;
- Develop potential alignments of a trail network through the greenspace;
- Identify, evaluate, and select alternative solutions to address the active transportation, environmental, and social economic needs;
- Collect, document, and assess input and feedback from residents and stakeholders;
- Document the decision making rationale and study process in an ESR.

Master Plan Process

Some of the trail sections are situated in areas where other separate studies ran concurrently with the MCEA Study, such as Markham Centre Secondary Plan (“MCSP”) update study, where confirmation of the final trail route was contingent on the comprehensive review of Markham Centre. Though the MCSP update study continued to advance, in January 2022, City staff determined that the Markham Centre trail network could be completed in multiple phases, with each phase being a separate and unique project. Consequently, in consultation with MECF, the study was re-classified as a Master Plan Study that would

permit the City to advance the trail sections that are not dependant on separate on-going and concurrent studies and construct the trail network in phases.

The Master Plan process and the appropriate criteria for trail projects as received by MECP is outlined in **Attachment B**.

Based on the Master Plan process criteria, The Markham Centre Trail network was broken down to eight (8) separate trail project areas, as shown in **Table 2** and **Attachment C**.

Table 2 – Master Plan Project Areas

Project Area	From	To
1	Apple Creek Boulevard	Highway 7 (North of Rouge River)
2	Highway 7	Warden Avenue (South of Rouge River)
3	Rodick Road	Warden Avenue (South of Rouge River)
4	Rodick Road	Warden Avenue (North of Rouge River)
5	Verclaire Gate	Birchmount Road (South of Rouge River)
6	Birchmount Road	Main Street Unionville
7	Signature Bridge over the Rouge River	
8	Underpasses at Verclaire Gate and Birchmount Road	

Each project area was evaluated based on the Master Plan process criteria to determine its individual MCEA.

Public Information Centres and other Consultation

The Study has followed the public and stakeholder consultation process requirements as set out by Municipal Engineers Association (MEA) for MCEA. This consultation process included the following:

- Publishing of a Notice of Project Commencement
- Project website
- Three (3) Public Information Centres (PIC's) on February 15, 2020, February 15, 2023 and March 22, 2023
- Correspondence with the potential reviewing agencies and meetings with landowners and key stakeholders such as TRCA, Metrolinx, Hydro One, IBM, and Indigenous communities.
- Meetings with the City's Accessibility Committee
- Meetings with the City's Cycling and Pedestrian Advisory Committee (CPAC).

The display boards for the PICs identified the different trail route alternatives and an evaluation matrix. The recommended alternative was displayed such that any concerns over the alignment could be submitted to the City to consider and address.

The comments from the PICs were taken into consideration and incorporated into the Master Plan process as outlined in the ESR.

OPTIONS/ DISCUSSION:

The ESR discusses the conceptual preferred trail route for the Markham Centre Trail network.

Trail Alternatives:

For each individual trail project within the Master Plan, two alternative trail routes were identified, and an option to do nothing was included as the baseline.

The Trail alternatives carried out in the Master Plan study are shown in **Table 3** and **Attachment D**.

Table 3 – Master Plan Conceptual Trail Route Alternatives

Alternative Trail Network	Description of Alternative Solution
Do Nothing	No trail will be developed. This Alternative serves as a baseline against which the impacts of other Alternatives can be measured.
Alternative No. 1: Minimal Trail Connectivity	Includes off-road trails with connections across roads and rivers using planned and existing road bridges and road intersections only. Portions of the trail need to be supplemented with sidewalks and bike lanes in order to cross Markham Centre.
Alternative No. 2: Maximum Trail Connectivity	Includes off-road trails with new pedestrian bridges and underpasses to cross major barriers. Some minor roads are crossed at-grade but interactions with traffic at major roads are avoided. The off-road trail crosses Markham Centre without the need to use sidewalks or bike lanes.

Evaluation of Alternatives

The trail route alternatives were evaluated within the various categories using an objective criteria listed in **Attachment E**. Criteria were categorized into Natural Environment, Social Environment, Cultural Environment, Economic Environment, and Consistency with Problem Statement.

The evaluation Matrix used to identify the conceptual preferred route alternative is shown in **Attachment F**.

Conceptual Preferred Trail Route

Based on the evaluation matrix Alternative 2 was recommended as the conceptual preferred trail route as shown in **Attachment G**

Each project area for the conceptual preferred trail route alternative, including trail length and high-level cost estimate, is shown in **Attachment H**.

Project Areas EA Requirements

This Master Plan Study also identified the EA requirements and next steps for each project area of the Markham Centre trail network, that are shown in **Table 4**.

Table 4 – EA Requirements for Project Areas Under the Master Plan

Project Area	EA Studies Required	Next Steps
Project 1: Apple Creek Blvd. to Hwy. 7.	Schedule B Project, phases 1 and 2 of the Municipal Class EA has been completed within this Master Plan.	Detailed Design and Construction
Project 2: Hwy 7 to Warden Ave. (N. side of Rouge River)	Project pre-approved, no EA study required.	Detailed Design and Construction
Project 3 Hwy 7 to Rodick Rd.	Project pre-approved, no EA study required.	Detailed Design and Construction
Project 4: Rodick Rd. to Warden Ave. south of Rouge River	Schedule B project, EA requirements to be completed outside of this Master Plan, potentially in conjunction with the Yorktech Dr. Extension EA	Separate Schedule B EA to be completed at a future date
Project 5: Verclaire Gate to Birchmount Rd.	Project pre-approved, no EA study required.	Detailed Design and Construction once future road alignment is determined
Project 6: Birchmount to Main St. Unionville	Schedule B or C EA requirements to be completed outside of this Master Plan, once a trail route can be confirmed.	Carry out Schedule B or C EA depending on potential cost of pedestrian bridge structures
Project 7: Signature Bridge over Rouge River East of Birchmount Rd.	Pre-approved or Schedule B EA requirements to be confirmed and completed outside of this Master Plan, if required.	May require Schedule B EA dependent on cost of pedestrian bridge structure
Project 8: Underpasses below Verclaire Gate and Birchmount Rd.	Project pre-approved, no EA study required.	Detailed Design and Construction

OPERATIONS AND MAINTENANCE

The annual Operating and Maintenance (O&M) cost is estimated at \$10,250 per km for a 4.0m wide off-road lime stone trail and \$12,000 per km for a 3.0m wide asphalt trail, subject to on-going review of the O&M costs with Operations department.

The details of the trail width, length and surface materials (aggregate or asphalt) for each project area will be determined at the detailed design stage, and the life cycle and O&M cost impact will be identified in the budget request for the construction of each trail segment, in consultation with Operations department.

Access to natural areas beyond the trail limits should be restricted through the use of signage and appropriate landscaping (i.e., living fence of shrubs and plantings) and / or fencing.

IMPLEMENTATION PHASING AND NEXT STEPS

Following posting of the Notice of Completion and expiration of the public review period, the next step is to retain a consultant to undertake the detailed design of Project Area 1 from Apple Creek Boulevard to Highway 7, which is included as part of the 2024 Capital Budget request. The anticipated schedule for starting the detailed design is May 2024, while the completion of detailed design is anticipated in December 2025. Anticipated construction commencement is spring 2026, subject to permit approvals.

Based on the EA requirements for each project area, the design and construction timing of all other trail segments will be determined at a later date in conjunction with the assessment of funding sources.

FINANCIAL CONSIDERATIONS

High level cost estimates for each of the project areas in this Master Plan study are shown in **Attachment H**. The total cost estimate for all the project areas under the conceptual preferred route alternative, including bridge structures and underpasses, is in the range of \$24M to \$27.7M, excluding the cost for the acquisition of any necessary lands that will be identified during the detailed design stage.

Trails are primarily funded from development charges, with those being built alongside the road network funded at 65% from the City Wide Hard and 35% from other sources, while those constructed off-road are funded 100% from the Parks reserve (City Wide Soft). The proposed trails identified in this report are primarily off-road in nature and therefore will require funding from the Parks reserve – City Wide Soft (CWS). The 10-year parks capital program to 2031 as included in the Development Charges Background Study, currently exceeds the projected development charge revenue for the period and, therefore the funding for the trail program may possibly face competing pressure for financing/funding from the parks capital program.

Following the completion of the Master Plan Study for the trails, an assessment of the overall cost to complete the network will be required in order to make a determination on how to proceed, with what will likely be constrained financial resources to undertake

construction. Staff will report back to Development Services Committee, following the completion of the Markham Centre Secondary Plan Study, the Yorktech Drive Extension EA, and the future EA studies for Project Areas 4, 6 and 7 to present the overall implementation program for the remaining section of the Markham Centre Trails, including the timelines and funding source assessment. At the detailed design stage of trail segment in each project area, the details of the trail, such as width, length and surface materials (aggregate or asphalt) will be determined. The lifecycle and O&M cost impact for each trail segment in each project area will be identified in capital budget submission for the construction of the project.

The budget for the detailed design of the trail segment of Project Area 1 (Markham Centre Trail Phase 4) is estimated at \$1.28M. The 2024 capital budget submission for the construction of Markham Centre Trails Phase 3 is \$1.4M. The Capital budget for the construction of each trail segment will be requested upon completion of detailed design for each section and brought forward as part of future capital budget submissions.

ALIGNMENT WITH STRATEGIC PRIORITIES

This project is aligned with the City's strategic goal of "Engaged, Diverse, Thriving and Vibrant City".

BUSINESS UNITS CONSULTED AND AFFECTED

Engineering, Operations, Planning and Finance departments have reviewed this report and their comments have been incorporated

RECOMMENDED BY:

Frank Clarizio
Director of Engineering

Arvin Prasad
Commissioner of Development
Services

ATTACHMENTS:

- Attachment A: Markham Centre EA Study Area
- Attachment B: Master Plan Process
- Attachment C: Master Plan Project Areas
- Attachment D: Alternative Trail Routes
- Attachment E: Evaluation Criteria
- Attachment F: Evaluation Matrix – Alternative Trail Route
- Attachment G: Conceptual Preferred Alternative Trail Route
- Attachment H: Descriptions of Master Plan Project Areas

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