INFORMATION ITEMS

Week Ending August 30, 2019

REPORTS

- 1. Bridge and Structure Lifecycle Management Strategy
- 2. Tier 1 Project Portfolio Q2 2019 Status Update

INTERGOVERNMENTAL CONSULTATIONS

- 1. Proposed changes to Provincial laws on Joint and Several Liability
- 2. Proposed Provincial Policy Statement (PPS) Changes

CORRESPONDENCE

1. None

BOARDS & COMMITTEES

1. None

ITEMS AVAILABLE IN THE CLERK'S OFFICE

1. None

Information Report



Service Area	Infrastructure, Development and Enterprise Services
Date	Friday, August 30, 2019
Subject	Bridge and Structure Lifecycle Management Strategy
Report Number	IDE-2019-96

Executive Summary

Purpose of Report

This report provides a summary of the bridge and structure lifecycle management strategy that has been recently developed and incorporated into the 2020 capital budget and forecast.

Key Findings

The study found that of 107 bridges and structures in the City, approximately 7% are in poor or very poor condition, 34% in fair, and 59% are in good or very good condition by replacement value. An investment plan has been developed based on asset management best-practices that has been prioritized based on risks and impacts to level of service.

Financial Implications

An average annual investment of approximately \$3.61 million will be required over the next 10 years. A funding analysis has been completed, and the project lists have been incorporated into the 2020 capital plan and forecast.

Report

Details

As part of the City's ongoing Asset Management Program, a study has been completed to develop a comprehensive lifecycle management strategy for City owned bridges and large structures. The key goal of the study was to develop and prioritize the investment requirements in terms of non-infrastructure solutions, operations and maintenance, rehabilitation, and reconstruction over the next 10years. This report provides an overview of the key findings which have been incorporated into the proposed 2020 Capital Budget and Forecast.

Inventory Overview

There are a total of 107 bridges and large structures in the City. These structures are summarized in **Table 1** below. A map of the locations of each of the structures is provided in **Attachment 1**.

Structure Classification	Number of Structures
Bridge	34
Culvert	36
Dam	1
Intake	2
Outfall	4
Dich	1
Weir	10
Retaining Wall	13
Stairs	2
Miscellaneous	4
Total	107

Table 1. Bridge and Large Structure Inventory Overview

State of the Infrastructure

As part of the study, an inspection of each structure was completed according to the Ontario Structures Inspection Manual (OSIM). The inspection resulted in recommendations for maintenance, rehabilitation and repair as well as provided an overall assessment of each bridge and structure's condition. The most common metric used to report on the overall condition of a bridge is a bridge condition index (BCI) number. The BCI value for each structure is calculated based on the Ministry of Transportation's (MTO's) "Bridge Condition Index (BCI) – An Overall Measure of Bridge Condition" (July 30, 2009), updated as required for new element types and materials.

A BCI value of 100 represents a new structure with no deficiencies immediately following construction. This value will decline over the useful life of a structure, depending on traffic volumes, maintenance, exposure to elements and chemicals (chlorides), and construction materials. Under the MTO's method for calculating the BCI, the general overall condition of a structure can be approximated by its BCI value. **Table 2** summarizes the general ranges of BCI values used to estimate the overall condition of a structure.

Table 2. Condition Ratings by Bridge Condition Index

BCI Rating	Condition Value
85 to 100	Very Good
70 to 84	Good
60 to 70	Fair
50 to 60	Poor

BCI Rating	Condition Value
<60	Very Poor

The BCI is calculated based on the economic value of the bridge and its elements. The remaining economic value of each bridge element is determined, using a weighted calculation method, which accounts for the proportions of the element that are in Excellent, Good, Fair and Poor condition. The sum of the remaining economic value of all elements, divided by the total bridge replacement value yields the BCI.

Typically, road bridges and large concrete culverts (greater than 6.0 m span, per cell) are assumed to undergo one rehabilitation cycle once the structure's BCI reaches 60. All structures are assumed to be scheduled for replacement once their BCI reaches 40, based on current best practices. It should be noted that a structure with a BCI of less than 40 may not necessarily require immediate replacement. Rather, it is a general indication that the structure should be scheduled for replacement. Larger structures requiring more substantial capital investments may be structurally suitable at a BCI of less than 40 and may be able to undergo multiple rehabilitation cycles. A summary of the percentage of structures in each condition state is provided in **Figure 1**. The figure shows that of 107 bridges and structures in the City, approximately 7% are in poor or very poor condition, 34% in fair, and 59% are in good or very good condition.

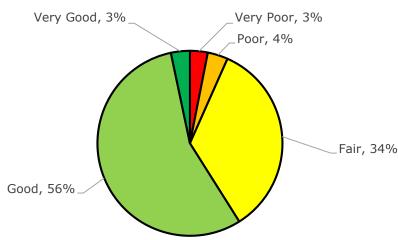


Figure 1 Condition Category by Structure Type

Risk Management

To aid in development of the capital investment plan, a risk assessment framework was developed in line with asset management best practices. The goal of the risk management framework is to identify consequences if the asset fails and the likelihood that it might occur. The OSIM inspection and BCI described above provide the likelihood of failure at the current time, while deterioration models have been developed to predict the likelihood of failure into the future. By understanding the deterioration models and asset lifecycles, the City can better predict the behavior of assets, which will allow better decision making in both the short and long term, and enabling us to answer the following key questions:

• What assets have the highest likelihood of failure?

- What assets should be prioritized for replacement, and when?
- What assets should be prioritized for rehabilitation, and when?
- What can I do to my assets to slow their deterioration and to mitigate their probability of failure?

Many different types of deterioration models exist. These models attempt to provide predictions on the asset's condition over time, taking into account (where possible) factors that affect the assets' lifecycles. Typically, these models are visually represented as deterioration curves. **Figure 2** below provides a visual example of one of the deterioration curves developed through this study.

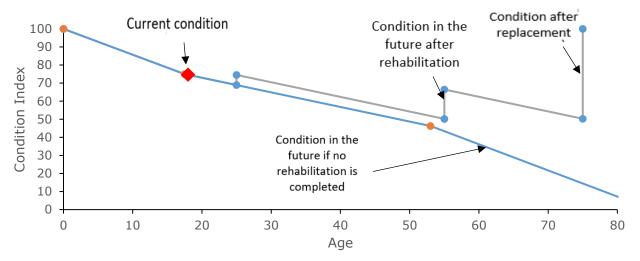


Figure 2 Deterioration Model Example

The consequence of failure of the bridges and structures was evaluated at two levels:

- At the element group level to understand the criticality of each element group to ensure the structure provides its intended services. This helps prioritize the renewal of one element group over another (i.e. beams are more critical than approaches).
- At the individual structure level to understand the relative criticality of each structure. This helps prioritize the renewal of one structure over another (i.e. the culvert under the road with average annual daily traffic (AADT) of 10,000 is more critical than the culvert under the road with AADT of 100).

The consequence of failure evaluation was completed using the City's Asset Risk Management framework as shown in **Figure 3**.

Rating	Direct Financial	Environmental	Socio-Economic
5 – Extreme	Cost to City: >\$5m	 Irreparable damage 	 Death Severe impact to critical customers Public inquiry/inquest Severe negative impact on City reputation, international media coverage >3 month disruption to local businesses or transportation routes More than 2,000 people/businesses affected
4 – Major	Cost to City: \$500k - \$5m	 Some permanent damage Major and extensive clean- up efforts required 	 Serious injuries Major impact to critical customers Criminal charges or public trial Major negative impact on City reputation, national media coverage. 1 to 3-month disruption to local businesses or transportation routes 500 to 2,000 people/businesses affected.
3 – Moderate	Cost to City: \$50k - \$500k	 Important non- permanent damage Important clean- up efforts required 	 Moderate injuries Moderate impact to critical customers Continuous litigation. Moderate negative impact on City reputation, important local media coverage. 1 to 4-week disruption to local businesses or transportation routes. 100 to 500 people/businesses affected.
2 – Minor	Cost to City: \$5k - \$50k	 Minor non- permanent damage Minor clean-up effort required 	 Minor injuries Minor impact to critical customers Potential lawsuits Minor negative impact on City reputation, some media coverage 1 to 7-day disruption to local businesses or transportation routes. 10 to 100 people/businesses affected
1 – Minimal	Cost to City: <\$5k	 Trivial No remedial action required 	 No injuries Minimal impact to critical customers Routine claims Minimal negative impact on City reputation, minimal media coverage <1-day disruption to local businesses or transportation routes Less than 10 people/businesses affected.

Figure 3 Consequence of Failure Rating

Lifecycle Management Strategy

A lifecycle management strategy was developed that included the following key components according to the Ministry of Infrastructure's Building Together – Guide for municipal asset management plans (2019):

 non-infrastructure solutions – actions or policies that can lower costs or extend asset life (e.g., better integrated infrastructure planning and land use planning, demand management, insurance, process optimization, managed failures, etc.).

- maintenance activities including regularly scheduled inspection and maintenance, or more significant repair and activities associated with unexpected events.
- renewal/rehabilitation activities significant repairs designed to extend the life of the asset. For example, the lining of iron watermains can defer the need for replacement.
- replacement activities activities that are expected to occur once an asset has reached the end of its useful life and renewal/ rehabilitation is no longer an option.
- disposal activities the activities associated with disposing of an asset once it has reached the end of its useful life, or is otherwise no longer needed by the municipality.
- expansion activities (if necessary) planned activities required to extend services to previously unserviced areas - or expand services to meet growth demands.

The proposed actions by category are provided in **Attachment 2** and the total costs per year are summarized in **Table 3**. The average annual investment needs over 10 years is approximately \$3.61 million per year.

Year	Non- Infrastructu re Solutions	Maintenance activities	Renewal / rehabilitation activities	Replacement activities	Disposal activities	Expansion activities
2020	100	50	1,589	1,650	500	N/A
2021	60	50	2,671	306	N/A	N/A
2022	N/A	50	228	593	N/A	N/A
2023	60	50	839	8,461	N/A	3,500
2024	N/A	50	390	683	N/A	N/A
2025	60	50	2,737	150	N/A	N/A
2026	N/A	50	1,139	1,274	N/A	N/A
2027	60	50	1,387	923	N/A	N/A
2028	N/A	50	125	4,004	N/A	N/A
2029	60	50	624	2,061	N/A	N/A
2030	N/A	50	N/A	2,893	N/A	N/A

 Table 3.
 Identified Investment Needs per Category (\$'000)

Financial Plan

A financial strategy has been developed and incorporated into the 2020 capital budget and forecast. It is proposed that the projects are funded through a combination of the Infrastructure Renewal reserve, Federal Gas Tax Funding, and Debenture Financing.

Conclusions

Overall, the development of this bridge and large structure lifecycle management strategy identified that the 10-year investment needs are approximately \$3.61 million per year. The projects identified in this strategy have been prioritized according to risk and integrated into the 2020 capital budget and forecast. The completion of these projects will ensure that levels of service will be maintained and risks will be minimized.

Financial Implications

It was found that an average annual investment of approximately \$3.61 million will be required over the next 10 years. A funding analysis has been completed, and the project lists have been incorporated into the 2020 capital plan and forecast.

Consultations

Engineering and Transportation Services and Finance were consulted on the development of this report and their feedback has been incorporated.

Corporate Administrative Plan

Overarching Goals

Service Excellence

Financial Stability

Innovation

Service Area Operational Work Plans

Our Services - Municipal services that make lives better

Our People - Building a great community together

Attachments

Attachment-1: Bridge and Large Structure Locations

Attachment-2: 10 Year Lifecycle Management Strategy

Departmental Approval

Greg Clark, Manager, Financial Strategy & Long-Term Planning

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IDE-2019-96 - Attachment 1 -Bridge and Large Structure Locations



IDE-2019-96 - Attachment 2 - 10 Year Lifecycle Management Strategy

Capital Account Number	Lifecycle Activity / Project Non-Infrastructure Solutions	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
PN0746	OSIM Inspections	N/A	60,000	N/A	60,000	N/A	60,000	N/A	60,000	N/A	60,000	N/A
Existing Funding	Retaining Wall Condition Assessments	100,000	N/A	N/A								
Existing Funding	River structure condition assessment	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Capital Account Number	Lifecycle Activity / Project Maintenance Activities	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
PN0605	Preventative - Bridge Cleaning	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
PN0605	Preventative - Removing Upstream and Downstream Obstructions	9,000	9,000	9,000	9,000	9,000	9,000	9,000	9,000	9,000	9,000	9,000
PN0605	Preventative - Vegetation Maintenance for a Structure	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000
PN0605	Corrective - Asphalt Patching	3,100	3,100	3,100	3,100	3,100	3,100	3,100	3,100	3,100	3,100	3,100
PN0605	Corrective - Barrier Repair	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000
PN0605	Corrective - Gabion Patching	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
PN0605	Corrective - Gravel Padding	400	400	400	400	400	400	400	400	400	400	400
PN0605	Corrective - Miscellaneous	2,200	2,200	2,200	2,200	2,200	2,200	2,200	2,200	2,200	2,200	2,200
PN0605	Corrective - Removals	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800
PN0605	Corrective - Sign Installation	800	800	800	800	800	800	800	800	800	800	800
PN0605	Corrective - Rock Protection	700	700	700	700	700	700	700	700	700	700	700

Capital Account Number	Lifecycle Activity / Project Renewal / Rehabilitation Activities	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
PN0004	Major Rehab - 100 Steps (110)	750,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PN0874	Major Rehab - Nofolk St Rail Bridge	500,000	1,500,000	N/A								
PN0876	Major Rehab - Riverside Park Retaining Walls (South) (414)	163,000	845,000	N/A								

Capital Account Number	Lifecycle Activity / Project Renewal / Rehabilitation Activities	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
PN0876	Minor Rehab - Boathouse Retaining Wall (416)	50,000	65,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PN0876	Minor Rehab - Allan's Dam Sluiceway (320)	100,000	26,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PN0876	Minor Rehab - Eramosa Rd. W. (403)	26,000	156,000	156,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PN0876	Minor Rehab - College Ave. (404)	N/A	46,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PN0876	Minor Rehab - Woodlawn Rd. E. (405)	N/A	13,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PN0876	Minor Rehab - Paisley Rd. (408)	N/A	20,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PN0876	Minor Rehab - Pond Creek Over Pond Creek Pedestrian (127)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PN0876	Minor Rehab - Pedestrian Path Over Silver Creek (128)	N/A	N/A	13,000	143,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PN0876	Minor Rehab - Beaumont Crescent Over Ditch (206)	N/A	N/A	26,000	117,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PN0876	Major Rehab - Silver Creek Entrance (219)	N/A	N/A	20,000	143,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PN0876	Minor Rehab - Towne Lattice Over Speed River (Middle) (123)	N/A	N/A	13,000	78,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PN0876	Minor Rehab - Imperial Road N @ Imperial Rd S/Rail Line (224)	N/A	N/A	N/A	78,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PN0876	Minor Rehab - Malcolm Road @ 61 Malcolm Rd (232)	N/A	N/A	N/A	65,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PN0876	Major Rehab - Drainage Ditch (Elizabeth St) (306)	N/A	N/A	N/A	39,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PN0876	Minor Rehab - CNR Intake (307)	N/A	N/A	N/A	65,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PN0876	Minor Rehab - Gordon St. (402)	N/A	N/A	N/A	59,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PN0876	Major Rehab - Edinburgh Road Over Speed River (104)	N/A	N/A	N/A	52,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PN0876	Major Rehab - Woodlawn Road Over Speed River (106)	N/A	N/A	N/A	N/A	91,000	559,000	N/A	N/A	N/A	N/A	N/A
PN0876	Major Rehab - Stone Road Over Eramosa River - Pedestrian (116)	N/A	N/A	N/A	N/A	78,000	403,000	N/A	N/A	N/A	N/A	N/A
PN0876	Minor Rehab - Woodlawn Road @ 348 Woodlawn Rd W (209)	N/A	N/A	N/A	N/A	156,000	1,144,000	N/A	N/A	N/A	N/A	N/A
PN0876	Major Rehab - York Road @ 648 York Rd (222)	N/A	N/A	N/A	N/A	26,000	156,000	N/A	N/A	N/A	N/A	N/A
PN0876	Minor Rehab - Paisley Rd. Over Willow W. Watercourse (220)	N/A	N/A	N/A	N/A	39,000	254,000	N/A	N/A	N/A	N/A	N/A
PN0876	Minor Rehab - Gows2 (103)	N/A	N/A	N/A	N/A	N/A	65,000	N/A	N/A	N/A	N/A	N/A
PN0876	Minor Rehab - Monkey (107)	N/A	N/A	N/A	N/A	N/A	26,000	130,000	N/A	N/A	N/A	N/A
PN0876	Minor Rehab - Heffernan St. Over Speed River (Middle)2 (119)	N/A	N/A	N/A	N/A	N/A	26,000	130,000	N/A	N/A	N/A	N/A

Capital Account Number	Lifecycle Activity / Project Renewal / Rehabilitation Activities	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
PN0876	Major Rehab - Massey Road @ 147 Massey Rd (201)	N/A	N/A	N/A	N/A	N/A	39,000	247,000	N/A	N/A	N/A	N/A
PN0876	Minor Rehab - Downey Road Over Hanlon Creek (214)	N/A	N/A	N/A	N/A	N/A	26,000	117,000	N/A	N/A	N/A	N/A
PN0876	Major Rehab - Willow Drainage Culvert (SES5365)	N/A	N/A	N/A	N/A	N/A	39,000	176,000	N/A	N/A	N/A	N/A
PN0876	Minor Rehab - Gordon Street Over Speed River (102)	N/A	N/A	N/A	N/A	N/A	N/A	65,000	358,000	N/A	N/A	N/A
PN0876	Minor Rehab - Heffernan Street (East)2 (120)	N/A	N/A	N/A	N/A	N/A	N/A	39,000	N/A	N/A	N/A	N/A
PN0876	Minor Rehab - Heffernan Street (West) Over CNR2 (121)	N/A	N/A	N/A	N/A	N/A	N/A	46,000	N/A	N/A	N/A	N/A
PN0876	Minor Rehab - Speedvale Avenue West Over UnNamed (213)	N/A	N/A	N/A	N/A	N/A	N/A	65,000	N/A	N/A	N/A	N/A
PN0876	Major Rehab - Teal Drive Over Unknown (234)	N/A	N/A	N/A	N/A	N/A	N/A	33,000	130,000	N/A	N/A	N/A
PN0876	Major Rehab - Howitt Creek Culvert (244)	N/A	N/A	N/A	N/A	N/A	N/A	39,000	169,000	N/A	N/A	N/A
PN0876	Minor Rehab - Neeve Street Over Speed River (113)	N/A	N/A	N/A	N/A	N/A	N/A	52,000	520,000	N/A	N/A	N/A
PN0876	Major Rehab - Imperial Road @ 429 Woodlawn Rd W (203)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	20,000	N/A	N/A	N/A
PN0876	Minor Rehab - Suburban Avenue Over Unknown (207)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7,000	20,000	91,000	N/A
PN0876	Minor Rehab - Elizabeth St. Over Ditch (227)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	72,000	N/A	N/A	N/A
PN0876	Minor Rehab - Watson Pkwy (North of CNR tracks) (241)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	46,000	N/A	N/A	N/A
PN0876	Minor Rehab - Wellington Street Over Silver Creek (218)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	65,000	N/A	N/A	N/A
PN0876	Major Rehab - Starwood Drive Over Unknown (231)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	39,000	143,000	N/A
PN0876	Minor Rehab - Royal City Park/Speed River (411)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	33,000	130,000	N/A
PN0876	Major Rehab - Neeve St. Tunnel (605)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	13,000	104,000	N/A
PN0876	Minor Rehab - Outfall - SES1267 (304)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	20,000	130,000	N/A
PN0876	Minor Rehab - River Run Observation Platform (602)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	26,000	N/A

Capital Account Number	Lifecycle Activity / Project Replacement Activities	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
PN0875	Replace - Macdonell Bridge (112)	350,000	260,000	N/A	3,250,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PN0011	Replace - Norwich Pedestrian Bridge	1,300,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PN0876	Replace - Allan's Dam Bridge (131)	N/A	33,000	325,000	3,000,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PN0876	Replace - Eramosa Rd. (Queen to King) (412)	N/A	13,000	59,000	644,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PN0876	Replace - Old Downey Road Over Hanlon Creek (118)	N/A	N/A	7,000	91,000	683,000	N/A	N/A	N/A	N/A	N/A	N/A
PN0876	Replace - York Road @ East of 868 York Rd (223)	N/A	N/A	91,000	780,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PN0876	Replace - Imperial Road N @ Woodlawn Rd W (225)	N/A	N/A	78,000	468,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PN0876	Replace - Spring St. (steps included) (410)	N/A	N/A	33,000	228,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PN0876	Replace - Massey Road @ 38 Royal Rd (202)	N/A	N/A	N/A	N/A	N/A	59,000	299,000	N/A	N/A	N/A	N/A
PN0876	Replace - Watson Road 1 Over UnNamed (233)	N/A	N/A	N/A	N/A	N/A	52,000	312,000	N/A	N/A	N/A	N/A
PN0876	Replace - Snow Dump Road (238)	N/A	N/A	N/A	N/A	N/A	39,000	234,000	N/A	N/A	N/A	N/A
PN0876	Replace - Dog Park (243)	N/A	N/A	N/A	N/A	N/A	N/A	39,000	143,000	N/A	N/A	N/A
PN0876	Replace - Riverside Weir 1 (309)	N/A	N/A	N/A	N/A	N/A	N/A	195,000	195,000	1,170,000	N/A	N/A
PN0876	Replace - Heritage Weir 1 (314)	N/A	N/A	N/A	N/A	N/A	N/A	195,000	195,000	1,170,000	N/A	N/A
PN0876	Replace - CNR Line @ Imperial Rd N (226)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	65,000	390,000	N/A	N/A
PN0876	Replace - Silver Creek Parkway S @ between Rail Lines (228)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	52,000	338,000	N/A	N/A
PN0876	Replace - Silvercreek Parkway S @ between Rail Lines (229)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	78,000	468,000	N/A	N/A
PN0876	Replace - Hanlon Weir 1 (319)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	195,000	195,000	1,170,000	N/A
PN0876	Replace - Outfall - SES4070 (303)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	78,000	468,000	N/A
PN0876	Replace - Riverside Park Retaining Walls (North) (413)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	195,000	423,000	2,893,000

Capital Account Number	Lifecycle Activity / Project Disposal Activities	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
PN0876	Removal – Speedvale Ave Retaining Wall	50500,000	N/A									

Capital Account Number	Lifecycle Activity / Project Expansion Activities	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
RD0330	Emma to Earl Pedestrian Bridge	N/A	N/A	N/A	3,500,000	N/A						
N/A	Total	3,889,000	3,087,000	871,000	12,910,000	1,123,000	2,997,000	2,463,000	2,420,000	4,179,000	2,873,000	2,943,000

Information Report



Service Area	Infrastructure, Development and Enterprise Services
Date	Friday, August 30, 2019
Subject	Tier 1 Project Portfolio Q2 2019 Status Update
Report Number	IDE-2019-99

Executive Summary

Purpose of Report

To provide the quarterly status update of the Tier 1 Project Portfolio to Council. These reports are posted on their respective project pages on <u>guelph.ca</u>.

Key Findings

In Q2, 2019, the City had the following active Tier 1 projects:

- Guelph Police Service (GPS) Headquarters (HQ) Renovation;
- South End Community Centre Design;
- Victoria Road Recreation Centre (VRRC) Renovation;
- Wilson Street Reconstruction and Market Square Parkade;
- Baker District Redevelopment and Guelph Main Branch Library;
- Guelph Innovation District Development (GID); and
- Transportation Master Plan (TMP).

Status dashboards for these Tier 1 projects as of June 30, 2019 are attached. A brief update of each project is provided within this report.

The following Tier 1 projects were in the initiation and planning stage during Q2, 2019 and updates for these projects will be provided as they move into development:

- Wyndham Street North / St. George's Square Reconstruction; and
- Canada's Smart Cities Challenge.

Financial Implications

The final budget for Victoria Road Recreation Centre has been reconciled. The project was closed with the final budget over by 1 percent, resulting from added accessibility and energy improvements.

Report

Current Tier 1 Projects

The currently active Tier 1 projects are:

- Guelph Police Service Headquarters Renovation Project;
- South End Community Centre Design;

- Victoria Road Recreation Centre Renovation;
- Wilson Street Reconstruction and Market Square Parkade Project;
- Baker District Redevelopment and Guelph Main Branch Library;
- Guelph Innovation District Development; and
- Transportation Master Plan.

Highlights for each of these projects are summarized below. More comprehensive updates are available in the attached status dashboards.

1. GPS HQ Renovation Project

The project is progressing within budget and scope. The current completion date for the Guelph Police Service headquarters renovation is the end of 2019. However, the contractor requires time to evaluate the impact on the current schedule of unexpected site conditions that were experienced.

2. South End Community Centre Design

The detailed design work is 95% complete and expected to be finalized by Q4 2019, which will include a Class A cost estimate for construction. Through the Committee of Adjustment, a parking variance has been approved which allows the design to proceed to site plan approval. More information regarding this project is available via guelph.ca/living/recreation/rec-facilities/south-end-recreation-centre

3. Victoria Road Recreation Centre Renovation

The Victoria Road Recreation Centre opened in June 2017. The project is now financially closed with 101% of the original approved budget having been spent. With this report, reporting on the VRRC Renovation project is concluded. Additional information is available via <u>guelph.ca/living/recreation/rec-facilities/victoria-road-recreation-centre</u>.

4. Wilson Street Reconstruction and Parkade Project

The superstructure is being constructed on-site and is close to completion. Stage 3 work for the Wilson Street reconstruction has commenced. The project is on schedule to be completed by end of Q3 2019. More information is available via guelph.ca/living/construction-projects/wilson-street-reconstruction-and-parkade/.

5. Guelph Innovation District Development

At the end of March 2019, Council approved the shift in the approach to the disposition of the GID lands such that now the Province is marketing the lands directly. With this new approach, the City will achieve the GID vision without accepting significant financial, legal and reputational risks. The City participated in the preparation of a marketing strategy and evaluation criteria for inclusion in the Province's bid for disposition of land. The marketing strategy, materials and evaluation criteria include GID content and the City's commitment to support redevelopment.

6. Baker District Redevelopment including Guelph Main Branch Library

The business partnership between Windmill Development Group and the City on the Baker St project carries forward. Windmill and its architects continue to work with the City and Guelph Public Library to arrive at a final plan for development. The third public engagement was held on May 29th 2019. A progress report will be shared with Council on September 16th.

7. Transportation Master Plan

The Transportation Master Plan is a Municipal Class Environmental Assessment Study that will update the 2005 Guelph-Wellington Transportation Strategy. The launch event was held June 5th and drew nearly 200 participants. Phase 1 of the community engagement has now been completed. A summary of progress and feedback from Phase 1 can be found in the Information Report "Transportation Master Plan Progress Update" (IDE-2019-88). The second phase of the project began in July 2019 to identify problems and opportunities. Potential solutions, such as 'complete streets', mode share targets, and other guidelines or policies are also under review to achieve the vision and goals of the plan. Engagement will take the form of pop-up booths, workshops, and tactical urbanism events in Fall 2019.

Planned Tier 1 Projects:

The following Tier 1 projects are currently in the initiation and planning stage. Updates for these new projects will be provided as they move into development.

- Wyndham Street North / St. George's Square Reconstruction; and
- Canada's Smart Cities Challenge.

1. Wyndham Street North / St. George's Square Reconstruction

Continuation of project development has been on hold due to budget reprioritization to other priority projects.

2. Canada's Smart Cities Challenge

On May 14, 2019, the City of Guelph/County of Wellington's proposal in Infrastructure Canada's Smart Cities Challenge was selected as a winner of \$10M to implement the "Our Food Future" project plan to create Canada's first circular food economy. Information Report CAO-2019-13, describing the proposed governance structure and outline next steps was presented to the Council on June 21, 2019.

Next steps:

- Summer 2019: Creation of the Smart Cities Office
- Fall 2019: Finalization of a Contribution Agreement with Infrastructure Canada
- Fall/Winter 2019/2020: Execution of Contribution Agreements with project partners

Financial Implications

The final budget for Victoria Road Recreation Centre has been reconciled. The project was closed with the final budget over by 1 percent, resulting from added accessibility and energy improvements.

Consultations

Staff from the following divisions were consulted for this report: Corporate Communications; Engineering Transportation Services; Facilities Management; Business Development and Enterprise; Guelph Innovation District Office; Strategy, Innovation, and Intergovernmental Services; and Finance.

Corporate Administrative Plan

Overarching Goals

Service Excellence

Financial Stability

Service Area Operational Work Plans

Our Resources - A solid foundation for a growing city

Attachments

Attachment-1 Tier 1 Project Portfolio Dashboard - Q2-2019

Attachment-2 Guelph Police Service Headquarters Renovation Project – Q2-2019

Attachment-3 South End Community Centre Project – Q2-2019

Attachment-4 Victoria Road Recreation Centre Renovation Project – Q2-2019

Attachment-5 Wilson Street Reconstruction and Market Square Parkade Project – Q2-2019

Attachment-6 Guelph Innovation District Development Project - Q2-2019

Attachment-7 Baker District Redevelopment including Guelph Main Branch Library Project – Q2-2019

Attachment-8 Transportation Master Plan – Q2-2019

Departmental Approval

Antti Vilkko, General Manager, Facilities Management

Cathy Kennedy, Manager, Policy and Intergovernmental Relations

Heather Flaherty, General Manager, Parks & Recreation

Helen Loftin, General Manager, Business Development Enterprise

Jeet Joginder, Manager, Complex Capital Projects

Report Author

Ania Orlowska, P. Eng., PMP Program Manager, PMO

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Tier Project Portfolio Dashboard August 30, 2019

Q2 end of June 2019

Basic Project Information



PROJECT	EXECUTIVE SPONSOR	PROJECT MANAGER	APPROVED BUDGET	FUNDING SOURCES	TARGET COMPLETION
<u>Wilson Street</u> <u>Reconstruction</u> and <u>Parkade</u>	Scott Stewart, DCAO, Infrastructure, Development and Enterprise Services	Daryush Esmaili, Manager, Design and Construction Engineering and Transportation Services Jeet Joginder, Manager, Complex Capital Projects, Facilities Management	\$24,875,000	Street 22% Tax, 62% Non-Tax, 16% Federal Gas Tax Bridge 100% Tax Parkade 50% Parking DC, 50% Tax Funded debt	Stage 1 and 2: Complete Stage 3: Fall 2019 Fall 2019 Fall 2019
Guelph Police Service Headquarters Renovation	-	Jeet Joginder, Manager, Complex Capital Projects, Facilities Management	\$34,111,000	45% Development Charges, 55% Tax	Fall 2019
<u>Victoria Road</u> <u>Recreation Centre</u> <u>Renovation</u>			\$15,100,000	3% Parkland Dedication Reserve, 11% Recreation Facility DC, 86% Tax funded debt	Complete
<u>South End Community</u> <u>Centre Design</u>	Scott Stewart, DCAO, Infrastructure, Development and Enterprise Services and Colleen Clack, DCAO Public Services		\$4,100,000	80% Development Charges, 20% Tax	95% completed at December 2018; full completion Q4 2019
Guelph Innovation District Development	Scott Stewart, DCAO, Infrastructure, Development and Enterprise Services and Trevor Lee, DCAO, CS	Helen Loftin, General Manager, Business Development Enterprise	\$237,000	Tax Operating Contingency Reserve	Q4 2019
Baker District Redevelopment (Master planning phase)	Scott Stewart, DCAO, Infrastructure, Development and Enterprise Services	Helen Loftin, General Manager, Business Development Enterprise	\$2,626,000	Library 24% Development Charges 76% Tax Baker District 100% Tax	Q4 2019
<u>Transportation Master</u> <u>Plan</u>	Scott Stewart, DCAO, Infrastructure, Development and Enterprise Services	Jennifer Juste, Program Manager, Sustainable Transportation	\$970,000	55% Development Charges, 15% Public Transit Infrastructure Fund Grant, 30% Reserve Funding	Q3 2020

Q2 end of June 2019



Dashboard

Project			Current	
	Scope	Schedule	Budget	
<u>Wilson Street</u> Reconstruction	Within scope	On schedule	\$	
Parkade	Within scope	On schedule	Within budget	
<u>Guelph Police Service</u> Headquarters Renovation		0	\$	
	Within scope	On revised schedule [*]	Within budget	
Victoria Road Recreation Centre Renovation	₿		\$	
	Within scope	Complete	Over budget**	
South End Community Centre Design	Ē	<u>()</u>	\$	
	Within scope	On revised schedule	Within budget	
<u>Guelph Innovation District</u> Development			\$	
	Within scope	On schedule	Within budget	
Baker District Redevelopment (Master planning phase)			\$	
	Within scope	On schedule	Within budget	
Transportation Master Plan			\$	
	Within scope	On schedule	Within budget	

Tier 1 Project Update | August 30, 2019

Q2 end of June 2019

Guelph Police Service Headquarters Renovation



Executive Sponsor	Scott Stewart, Deputy Chief Administrative Officer, Infrastructure, Development and Enterprise Services
Project Manager	Jeet Joginder, Manager, Complex Capital Projects, Facilities Management
Approved Budget	\$34,111,000
Funding Sources	45% Development Charges, 55% Tax
Project Deliverables and Scope	GPS headquarters is undergoing an expansion and renovation to meet the needs of our community's police services today and 25 years from now. This work will bring the facility up to today's health and safety standards, provide the appropriate space—long-term—for police operations and personnel, and replace the building's aging equipment.
	The renovation includes gutting and rebuilding the inside of the existing building and the expansion includes the construction of two new wings—on the east and west sides of the existing building. Additional details available at <u>guelph.ca/gpsreno</u> .
Target Completion	Fall 2019

Project Status



*On schedule as per revised baseline. Schedule revisions under review. For more information, visit guelph.ca/gpsreno.

Progress to date

Start			Complete Q2 Project Update
2016	2017	2018	2019
FMAMJJASOND	J F M A M J J A S O N D	J F M A M J J A S O N D	JFMAMJJJASOND

- Construction preparation
- Phase 1 (east and west wing renovations)
- Phase 2 renovation
- Deficiency rectification and warranty period (one year)



Q2 end of June 2019

South End Community Centre Design



Main entrance view from east. Artist's interpretation. Subject to change.

Executive Sponsor	Scott Stewart, Deputy Chief Administrative Officer, Infrastructure, Development and Enterprise Services
	Colleen Clack, Deputy Chief Administrative Officer, Public Services
Project Manager	Jeet Joginder, Manager, Complex Capital Projects, Facilities Management
Approved Budget	\$4,100,000
Funding Sources	80% Development Charges, 20% Tax
Project Deliverables and Scope	Design of a community centre of an approximate area of 165,000 square feet consisting of a twin pad arena, an aquatic facility, a double multi-purpose gymnasium, program space, meeting rooms and indoor walking track and administration spaces. The project will provide a conceptual rendering, detail design drawings and a cost estimate for construction. For additional details, visit guelph.ca/living/recreation/rec-facilities/south-end-recreation-centre/.
Target Completion	Q4 2019

Project Status



*95% completed at December 2018; full completion Q4 2019



Q2 end of June 2019

Victoria Road Recreation Centre Renovation



Executive Sponsor	Scott Stewart, Deputy Chief Administrative Officer, Infrastructure, Development and Enterprise Services
Project Manager	Jeet Joginder, Manager, Complex Capital Projects, Facilities Management
Approved Budget	\$15,100,000
Funding Sources	3% Parkland Dedication Reserve, 11% Recreation Facility Development Charges, 86% Tax funded debt
Project Deliverables and Scope	A renovation and expansion that will move the facility from an aging and outdated recreation centre to an updated, more inclusive and accessible community centre. The modernized facility will meet all building code and legislated requirements and improve the experience of City patrons and employees through improved accessibility, security, customer service, and new programming. For additional details, visit guelph.ca/vrrcrenovations.
Target Completion	Opened in June 2017.

Project Status



*Final budget has been reconciled. The project was closed with the final budget over by 1 percent, resulting from added accessibility and energy improvements.



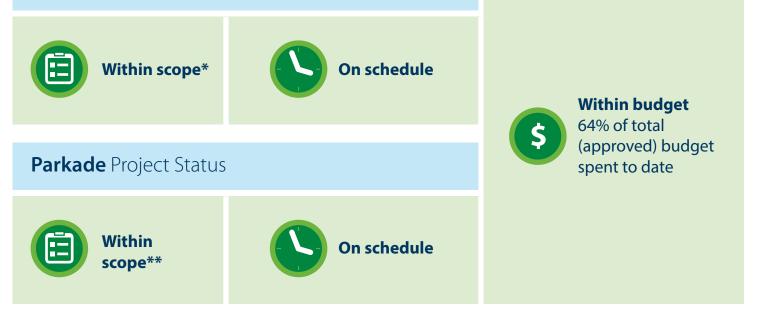
Q2 end of June 2019

Wilson Street Reconstruction and Parkade



Executive Sponsor	Scott Stewart, Deputy Chief Administrative Officer, Infrastructure, Development and Enterprise Services
Project Manager	Street: Daryush Esmaili, Manager, Design and Construction, Engineering and Transportation Services
	Parkade: Jeet Joginder, Manager, Complex Capital Projects, Facilities Management
Approved Budget	\$24,875,000
Funding Sources	Street: 22% Tax, 62% Non-Tax, 16% Federal Gas Tax Bridge: 100% Tax Parkade: 50% Parking DC, 50% Tax Funded debt
Project Deliverables and Scope	A new parking structure with approx. 490 parking spaces, replacement of the Norfolk Pedestrian Bridge and reconstruction of Northumberland Street between Wilson and Norfolk streets, and reconstruction of Wilson Street between Gordon and Macdonell streets. For additional details, visit guelph.ca and search <u>Wilson street reconstruction and parkade</u> .
Target Completion	Q3 2019

Street Project Status



*Street: Stage 2 construction complete. Stage 3 commenced in Spring 2019.

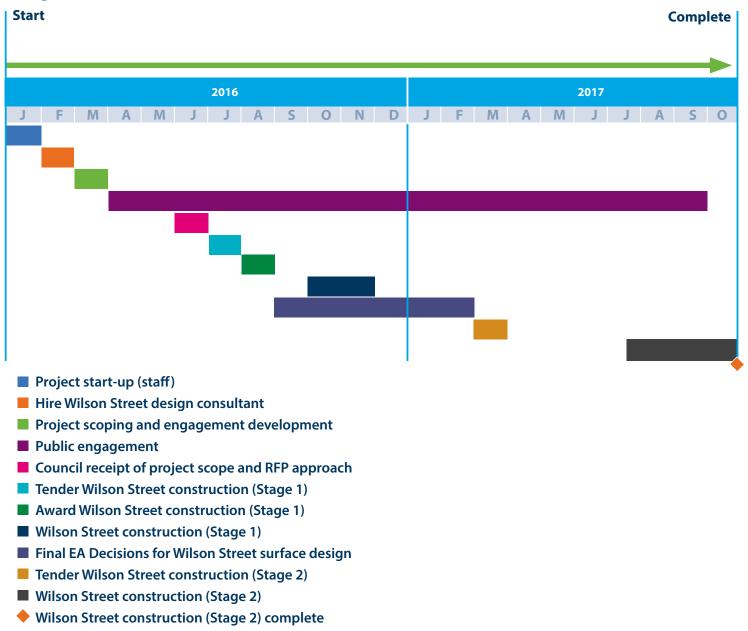
**Parkade: Construction work in progress.



Q2 end of June 2019

Wilson Street Reconstruction (Stage 1 and 2)

Progress to date

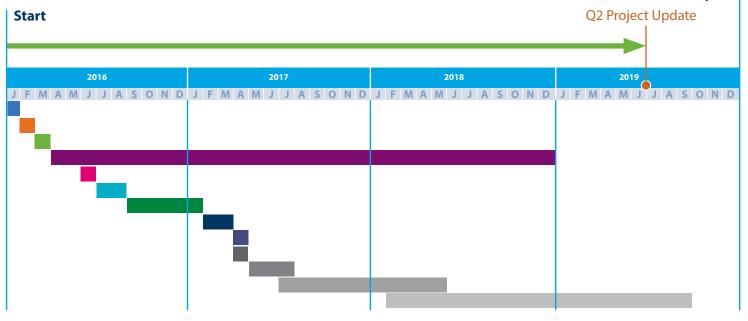




Q2 end of June 2019

Wilson Parkade Construction (Stage 3 street and bridge reconstruction)

Progress to date



- Project start-up (staff)
- Hire design-build (d-b) contract consultant
- Project scoping and engagement development
- Public engagement
- Council receipt of project scope and RFP approach
- Tender Wilson Parkade d-b RFP
- Analysis of RFP results and preparation to reissue new RFP
- Re-issue and close Wilson Parkade d-b RFP
- Evaluation and recommendation
- Contract award
- Design of Wilson Parkade and Norfolk Bridge
- Site plan approval and building permits
- Construction of Wilson Parkade, Norfolk Bridge and Stage 3 street reconstruction



Complete

Tier 1 Project Update | August 30, 2019

Q2 end of June 2019

Guelph Innovation District Development



Executive Sponsor	Scott Stewart, Deputy Chief Administrative Officer, Infrastructure, Development and Enterprise Services and Trevor Lee, Deputy Chief Administrative Officer, Corporate Services
Project Manager	Helen Loftin, General Manager Business Development Enterprise
Approved Budget	\$237,000 [*]
Funding Sources	Tax Operating Contingency Reserve
Project Deliverables and Scope	A plan to facilitate and support the development of more than 162 hectares (400 acres) at the eastern edge of the City as an integrated mixed-use community with housing, commercial and recreational spaces, in accordance with the Guelph Innovation District Secondary Plan. The Guelph Innovation District will connect to the downtown and University of Guelph communities, provide homes for more than 6,500 residents and space for more than 8,500 jobs. For more information visit <u>guelph.ca/guelph-innovation-district</u> .
Target Completion	Q4 2019

Project Status





- Path A—Phase 1: Expression of interest
- Path A—Phase 2: Due diligence
- Path B—Phase 1: Property marketing*

* The Path B: Infrastructure Ontario will market the property directly and the City of Guelph will help inform the content of the marketing materials so that proponents have a full understanding of the GID Secondary Plan and the vision for the property.



Q2 end of June 2019

Baker District Redevelopment (Master planning phase)

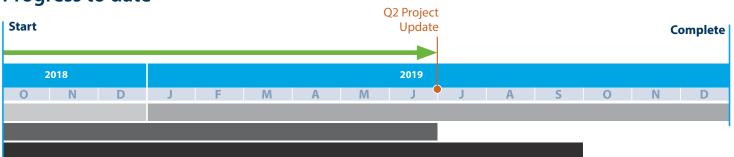


Executive Sponsor	Scott Stewart, Deputy Chief Administrative Officer, Infrastructure, Development and Enterprise Services
Project Manager	Helen Loftin, General Manager Business Development Enterprise
Approved Budget	\$ 2,626,000
Funding Sources	Library: 24% Development charges; 76% Tax; Baker District: 100% Tax
Project Deliverables and Scope	The Baker District Redevelopment Project is a City of Guelph-initiated development aimed at transforming the existing surface parking lot and adjacent properties fronting Upper Wyndham Street into a unique, mixed-use development. The purpose of this phase was to operate in accordance with the Letter of Intent that serves as the basis for the parties to execute a commercial agreement relating to the redevelopment of the site. Integral to this phase of the project is the completion of the functional program and concept design for the new central library. For more information visit <u>https://guelph.ca/business/downtownbusiness/bakerdistrict/</u>
Target Completion	Q4 2019

Project Status



Progress to date



- RFP and Preliminary Negotiation Stage
- Master Planning and Negotiation Stage
- Library program: Concept design
- Community engagement



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Q2 end of June 2019

Transportation Master Plan

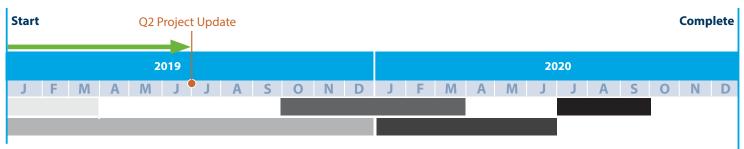


Executive Sponsor	Scott Stewart, Deputy Chief Administrative Officer, Infrastructure, Development and Enterprise Services	
Project Manager	ager Jennifer Juste, Program Manager, Sustainable Transportation	
Approved Budget	\$970,000	
Funding Sources	55% Development Charges, 15% Public Transit Infrastructure Fund Grant, 30% Reserve Funding	
Project Deliverables and Scope	The Transportation Master Plan is a Municipal Class Environmental Assessment Study to provide a significant update to the 2005 Guelph-Wellington Transportation Strategy. The update will track progress on outstanding recommendations from the previous plan, ensure alignment with policies adopted since 2005, and identify a vision, goals and recommendations to prepare the City to transport people and goods to 2031 and beyond.	
Target Completion	Q3 2020	

Project Status



Progress to date



- Contract negotiation and project initiation
- Community engagement, policy research and transportation modeling
- Evaluation and selection of preferred network; presentation to Council of preferred option
- Implementation and financial plan
- Council presentation of final TMP



	Provincial/Federal Consultation Alert						
Title	Ministry	Consultation Deadline	Summary	Proposed Form of Input	Rationale	Lead	
Proposed changes to Provincial laws on Joint and Several Liability	Ministry of the Attorney General	September 27, 2019	The Ministry of the Attorney General is seeking input from municipalities on joint and several liability, insurance costs, and the 'liability chill' affecting the delivery of everyday public services.	Written comments submitted to the Ministry of the Attorney General	Changes could see lower insurance costs and reduced liability exposure for Ontario municipalities	Legal, Realty, and Court Services	htt

Link to Ministry Website

https://www.attorneygeneral.jus.gov.on.ca/english/

Provincial/Federal Consultation Alert							
Title	Ministry	Consultation Deadline	Summary	Proposed Form of Input	Rationale	Lead	Link to Ministry Website
ERO#019-0279 Proposed Provincial Policy Statement (PPS) Changes	Ministry of Municipal Affairs and Housing	October 21, 2019	 The Province is proposing changes to the PPS to support Ontario's Housing Supply Action Plan and recent changes to the land use planning system including Bill 108, More Homes, More Choice Act, 2019 and A Place to Grow: Growth Plan for the Greater Golden Horseshoe. Proposed changes include: 1) Increasing Housing Supply and Mix including increasing the planning horizon from 20 to 25 years, increasing housing land supply from 10 to 12 years, and adding flexibility to the settlement area boundary expansion process. 2) Protecting the Environment and Public Safety including enhancing direction to prepare for the impacts of a changing climate, and enhancing stormwater management policies. 3) Reducing Barriers and Costs including requiring municipalities to fast-track development applications for certain proposals (e.g. housing), and refocusing energy policies to support a broad range of energy types and opportunities. 4) Supporting Rural, Northern and Indigenous Communities including enhanced municipal engagement with Indigenous communities on land use planning. 5) Supporting Certainty and Economic Growth including encouraging municipalities to assess locally-identified 	Written comments submitted through ERO. Council will be requested to endorse a proposed response at the October 16 Planning Meeting prior to submitting comments through the ERO.	The PPS is the consolidated statement of the provincial government's policies on land use planning that guides municipal decision making. Under the Planning Act municipal decisions on land use planning matters "shall be consistent with" the PPS. An endorsed Council response ensures that Council members are informed of the proposed changes and have an opportunity to contribute to the City's response.	Planning and Building Services	https://ero.ontario.ca/notice/019- 0279

	employment areas when undertaking an official plan update, and providing municipalities with greater control over employment area conversions.		
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