

# **The Corporation of the City of Kawartha Lakes**

## **Committee of the Whole Report**

**Report Number ENG 2020-003**

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**Meeting Date:** March 10<sup>th</sup> 2020

**Title:** Update of Roads 5 Year Plan

**Description:** Updating budget forecasting plan

**Ward Number:** All

**Author and Title:** Mike Farquhar Supervisor of Technical Services

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### **Recommendation(s):**

**That** Report ENG 2020-003, **Update of the Roads 5 Year Plan**, be received;  
and,

**That** this recommendation be forwarded to the agenda for the next Council meeting for adoption.

**Department Head:**\_\_\_\_\_

**Financial/Legal/HR/Other:**\_\_\_\_\_

**Chief Administrative Officer:**\_\_\_\_\_

## **Background:**

At the November 26, 2019 Special Council meeting the following resolution was passed.

**CR2019-681 Moved By** Councillor Richardson **Seconded By** Councillor Dunn  
**That** staff bring an update on the Five Year Roads Plan, including a status and forecast update, by the end of Q1 of 2020.

**Carried**

This report is in response to this resolution.

The existing “Five Year Roads Plan” was initially approved and adopted by City Council at the May 16, 2017 Regular Council meeting through Report ENG2017-005. At this meeting the following resolution was passed.

### **CR2017-424**

**Moved By** Councillor Stauble

**Seconded By** Councillor Strangway

**RESOLVED THAT** Report ENG2017-005, **Proposed Roads 5 Year Plan (2018-2022)**, be received;

**THAT** Appendices A, B, C (i.e., the Roads 5-Year Capital Plan) to Report ENG2017-005 be adopted as a guide for planning and prioritizing capital projects within the programs Urban/Rural reconstruction, Urban Arterial Resurfacing and Rural Resurfacing on an annual basis from 2018 to 2022; and

**THAT** staff update the plan annually based on capital project approvals and in accordance with the Asset Management Plan.

## **CARRIED**

The “Roads 5-year Plan” that was adopted as a guide for future capital planning objectives in resolution CR2017-424 was derived from the City’s Roads Needs Study which was initiated in 2016. The objectives of the study were:

- The assessment and review of the condition of the 2,700 kms of road network within the City;
- To provide unit costs for improvements to the road sections;
- To prioritize rehabilitation and replacement needs as “Now”, “1-5 Year” and “6-10 Year”;

- To provide a life cycle costing analysis, identifying road sections for preventative maintenance that would extend the overall life of the road network; and
- To update GIS roads database with the collected information.

The Study was presented to Council on April 11, 2017 through report ENG2017-005 and received through Council resolution CR2017-305. This study was then used as a guideline for developing the five year plan based on the identified Now, 1-5 and 6-10 year needs as they would be addressed in the yearly capital programs of Urban/Rural Reconstruction, Urban/Arterial resurfacing and Rural Resurfacing. The Plan did not deal with the resurfacing needs of gravel roads; these were addressed in the “Ten Year Gravel Resurfacing Plan”.

This Plan also utilized past criteria from the previous roads Five Year Capital Plan. They are as follows.

1. Joint projects, taking into consideration the road section and priority of underground infrastructure coordination;
2. Life cycle initiatives for prolonging the operating life of a road section;
3. Resolving operational and maintenance demands within a road section;
4. Boundary road sections in keeping with established agreements; and
5. Existing Council resolutions and priorities for various road sections.

This plan reviewed the identified needs outlined in the road needs study with regard to the previous identified capital programs and made recommendations for annual spending amounts within the plan in order to maintain the roads adequacy level for the network as presented in Report ENG2017-005.

The Plan had proposed a sustained annual program funding over 5 years of approximately \$5 - 6 million per year for Urban/Rural reconstruction, \$5.8 – 6 million for Urban/Arterial resurfacing and \$3.7 - 4 million for Rural resurfacing. Over the 5 year period the costs were estimated to be within these ranges and to total approximately \$74 million of the Now needs and 1 - 5 year needs identified in the roads needs study.

This can be shown in the existing Appendices A – C of the original plan, addressing years of priority and approximate costs associated with each program. The Plan was intended as a guide for Council and staff for coordination and setting priorities over the next 5 years as well as to inform the Asset Management Plan. Some priorities could change year to year which would be updated in subsequent updates of said Plan.

Situations that could cause this to happen would be re-coordination of infrastructure projects, requests from Boundary Municipalities, and amendments to the yearly funding model based on changes to the Asset Management Plan

adopted by Council. Based on those changes the Roads 5 Year Plan would be reviewed and amended.

### **Rationale:**

Based on the Council resolution received at the November 26, 2019 Special Council meeting, the intent of this report is to show the current progress of the Plan in terms of spending as well as updated Schedules A-C based on works completed or committed to from 2018 through to 2020.

The Current Plan as adopted runs from the year 2018 to 2022. 2020 marks the third year of this Plan.

Table 1 illustrates the spent and approved funding for the programs within the Plan years 2018-2020. It also illustrates for a matter of context to the overall road network the capital programs of Gravel Resurfacing and Road Life Cycle Extension. All of these programs contribute to the betterment of the overall road network adequacy.

Within the ***Urban/Rural Reconstruction program*** for the years 2018- 2020 the funding targets were under for 2018 and exceeded for 2019 and 2020. This was due to funding reprioritizing in 2018, 2019 and 2020 and higher costs of construction than anticipated in the original plan for 2019 and 2020. These changes have been identified in the updated Appendix A – Urban/ Rural Reconstruction, attached to this report. Adjustments for costing and timing of work as well as movement between programs of road segments have been made based on improvement plans like the Downtown Lindsay Reconstruction phasing plan, Fenelon Falls downtown reconstruction plan and the cast iron watermain grant replacement plan which did not exist at the time of the Roads Five Year Plan development. Due to these changes certain segments will be adjusted within the 2018-2022 timeframe and certain sections that were within the 2018-2022 timeframe will now be pushed out to 2023-2027.

Within the ***Urban/Arterial Resurfacing program*** for the years 2018-2020 the program funding has not met the target of \$5.8 to 6 million for the year 2018 to 2019, and was significantly under in 2020. This was due to funding reprioritizing at a corporate level for the capital budget which required a reduction in the 2018 and 2019 plan funding levels for this program. Additionally due to higher costs in the 2020 Urban/Rural Reconstruction program the Urban/ Arterial Resurfacing program was reduced to approximately half of the recommended program funding, in order to meet the requirements of the Capital budget for 2020. These changes have been identified in the updated Appendix B – Urban/ Arterial Resurfacing, attached to this report. Due to these changes certain segments will be adjusted within the 2018-2022 timeframe and certain sections that were within the 2018-2022 timeframe will now be pushed out to 2023-2027.

Within the ***Rural Resurfacing program*** for the year 2018 the program funding was slightly under the target of \$3.7 to 4 million per year. This was due to funding reprioritizing at a corporate level for the capital budget which required a reduction in the 2018 plan funding levels for this program. For the Years 2019 and 2020 of the plan, the funding level slightly exceeded the program goal based on the approved funding. This was due to additional resurfacing projects added by Council during yearly capital budget deliberations. These changes have been identified in the updated Appendix C – Rural Resurfacing, attached to this report. Due to these changes certain segments have been adjusted within the 2018-2022 timeframe.

The overall road network adequacy of approximately 2700 lane kilometers of gravel and hardtop roads have benefited and improved due to the funding shown in Table 1 under the programs Gravel Resurfacing and Road Life Cycle Extension. The spending of approximately \$3,239,600 over 2018-2019 in the Road Life Cycle extension program, which mostly targeted road segments that would fall under Appendix C of this plan has helped accelerate the Rural resurfacing program as well as dealt with road segments outside of the current Plan into 1-5 and 6-10 year needs as identified within the roads needs study. The process for the utilization of the Life Cycle extension program has primarily been the review of road segments after spring thaw with Public Works staff to identify unmanageable road segments outside of the current 5 Year Plan that need attention.

Table 1 shows that between the years 2018 -2020 the City has funded approximately \$46,879,000 of its five year goal of funding \$74 million under the Roads 5 Year Plan, and is projected to spend \$79 million by 2022 (shown in table 2). This has equated to 3.789 kms of road being reconstructed under the Urban/Rural Reconstruction program, 44.3 kms of road being resurfaced under the Urban/Arterial resurfacing program and 124.3 kms of road being resurfaced under the Rural resurfacing program between the years 2018-2020. The overall value of funded improvements increases to \$55,282,418 when including the Life cycle extension program for the years 2018-2020.

Capital Program	Year of Capital Spending / Total \$			Total
	2018	2019	2020	
Urban / Rural Reconstruction	\$6,895,615.00	\$8,370,351.00	\$9,213,000.00	\$24,478,966.00
Urban / Arterial Resurfacing	\$4,309,200.00	\$4,649,083.00	\$2,288,000.00	\$11,246,283.00
Rural Resurfacing	\$3,469,400.00	\$3,752,130.00	\$3,720,000.00	\$10,941,530.00
Subtotal of 5 Year Plan programs	\$14,674,215.00	\$16,771,564.00	\$15,221,000.00	\$46,666,779.00
Gravel Resurfacing	\$1,440,250.00	\$1,403,689.00	\$1,526,100.00	\$4,370,039.00
Road Life Cycle Extension	\$1,219,800.00	\$2,019,800.00	\$1,006,000.00	\$4,245,600.00
Subtotal per year	\$17,334,265.00	\$20,195,053.00	\$17,753,100.00	
Yearly target program amounts				
Urban/Rural Reconstruction - \$ 5-\$ 6 million			<b>Total</b>	\$55,282,418.00
Urban/Arterial Resurfacing - \$ 5.8- \$ 6 million				
Rural Resurfacing - \$ 3.7- \$ 4 million				
Life Cycle Extension -\$ 1 -\$ 1.2 million				

**Table: 1**

\*Council accelerated program to address immediate needs based on spring thaw

\*\* It was a decision unit to remove \$2,024,000 to help with corporate budget pressures.

Capital Program	Year of Capital Spending / Total \$			
	2021	2022	Total 2018-2022	2023-2027
<b>Urban / Rural Reconstruction</b>	\$8,375,264.00	\$7,428,428.00	\$37,646,383.00	\$49,442,984.00*
<b>Urban / Arterial Resurfacing</b>	\$6,346,255.00	\$6,271,014.00	\$23,863,552.00	\$32,500,000.00**
<b>Rural Resurfacing</b>	\$3,673,275.00	\$3,689,845.00	\$18,304,650.00	\$19,250,000.00**
<b>Subtotal of 5 Year Plan Programs</b>	\$18,394,794.00	\$17,389,287.00	\$79,814,585.00	\$101,192,984.00
Yearly target program amounts for 2023-2027 Urban/Rural Reconstruction - \$ 9-\$ 10 million Urban/Arterial Resurfacing - \$ 6- \$ 7 million Rural Resurfacing - \$ 3.7- \$ 4 million				

**Table:2**

\*figures based on total cost shown in Appendix A for projects 2023-2027

\*\*figures based on average yearly program cost projected into 2023-2027

The funded work is illustrated in Appendix-D, the updated 2016 roads needs condition map. This map outlines the identified road segments within the City's road network that had been condition rated through the 2016 roads needs study and labeled as Now Needs, 1-5 year needs, 6-10 year needs and Adequate. This map has been updated to show the work funded through the Five Year Plan from 2018-2020 as well as the Life Cycle Extension program. As well, included as Appendix E, Gravel Road Resurfacing 2017-2020, is a map illustrating the road segments that have been funded through the gravel resurfacing program from 2017-2020. This has been shown in this report in order to give context to the overall improvements that have been made to the road network outside of the 5 Year Plan programs.

The updated Appendices A, B, and C contain updated scheduling and pricing based on how the individual programs have been affected due to yearly Capital budget funding as well as movements in the years of proposed work based on reprioritization.

This report is a midterm update on the 5 Year Plan with regards to completed road segments and funding goals. A new plan will be developed in 2022 and will project out the main roads capital programs being Urban/Rural reconstruction, Urban/Arterial resurfacing and Rural resurfacing for 2023-2027. The update of the Roads Needs study is proposed to happen in 2021. Once completed, that information will be presented to Council and used to formulate the next 5 Year Plan and inform the City's Asset Management Plan.

### **Other Alternatives Considered:**

### **Financial/Operation Impacts:**

Higher construction costs and reprioritized projects within the Urban/Rural reconstruction program for the years 2018-2022 as shown in Tables 1 and 2 has increased funding level requirements in this program from what had been anticipated in the original plan. Going forward in the next 5 year Plan from 2023-2027, it is anticipated that this program's recommended yearly funding amount will increase from \$5-\$6 million per year to \$9-\$10 million per year based on the proposed projects shown in Appendix A for 2022-2027. For the Urban/Arterial resurfacing program, due to the underfunding in the program as shown in Table 1 for the years 2018-2020 it is necessary to increase the program for the years 2021 and 2022 over the yearly target amount of \$5.6-\$6 million to over \$6 million annually, and proposed to increase to between \$6-\$7million for 2023-2022 , to address the backlog of approximately \$11.9 million of projects pushed out into 2023-2027 within this program. The Rural Resurfacing Program has met its targeted yearly amounts for years 2018-2020. It is anticipated the funding levels will be maintained for this program for the next iteration of the 5 Year Plan for this program being between \$3.7-\$4 million dollars.

Based on Table 2, over the course of the 5 Year Plan for years 2018-2022 the current and forecasted spending has exceeded the target of approximately \$74 million over the forecasted overall program spending target of \$79,814,385. However this spending did not achieve the completion of all listed projects in the plan, mostly due to reprioritized projects with higher construction costs. It is anticipated that based on increased yearly program spending increases shown in Table 2, that the next 5 Year Plan spending target could reach over approximately \$100 Million. These anticipated spending increases will be reviewed and addressed in the next updates to the City's Long-Term Financial Plan and Asset Management Plan.



Going forward staff will bring to Council a yearly updated 5 Year Plan within Q2 of that year in order to inform Council of current achievements and of any funding level adjustments to be made for the Capital budgeting process happening within that given year.

## **Relationship of Recommendation(s) To The 2016-2019 Strategic Plan:**

This report relates to the Council Adopted Strategic Plan in the areas of a Vibrant and Growing Economy and Good Government

## **Consultations:**

Director of Engineering and Corporate Assets  
Supervisor of Infrastructure and Design  
Manager of Asset Management

## **Attachments:**

Appendix A- Urban/Rural Reconstruction program  
Appendix B- Urban / Arterial Resurfacing program  
Appendix C- Rural Resurfacing program  
Appendix D-Updated 2016 Roads Needs condition map  
Appendix C- Gravel Resurfaced roads (2017-2020)



Appendix A- Urban  
Rural Reconstruction



Appendix B- Urban  
Arterial Resurfacing



Appendix C- Rural  
Resurfacing Update



Appendix D-  
Updated 2016 Roads



Appendix E- Gravel  
Resurfaced road 2017

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