

The Corporation of the Town of Lakeshore

Report to Council

Engineering & Infrastructure Services

Public Works



To: Mayor & Members of Council

From: Nelson Cavacas, Director, Engineering & Infrastructure Services

Date: June 1, 2020

Subject: Roads Capital and Lifecycle 5 Year Plan

Recommendation

This report is provided for information only.

Background

A Road Need Study (RNS) was completed in 2018 which assessed the health of all paved roads in Lakeshore. Based on this study and the municipality's Asset Management Plan, Administration has developed a Five Year Roads Capital and Lifecycle Plan.

Comments

The RNS focuses on three key points in its recommendations:

- 1) Applying the right treatment, to the right pavement, at the right time;
- 2) Establish level of service standards for road maintenance;
- 3) Adopt the principle of working towards the Town's annual roads lifecycle requirement of \$10,500,000 (in 2019 dollars) annually.

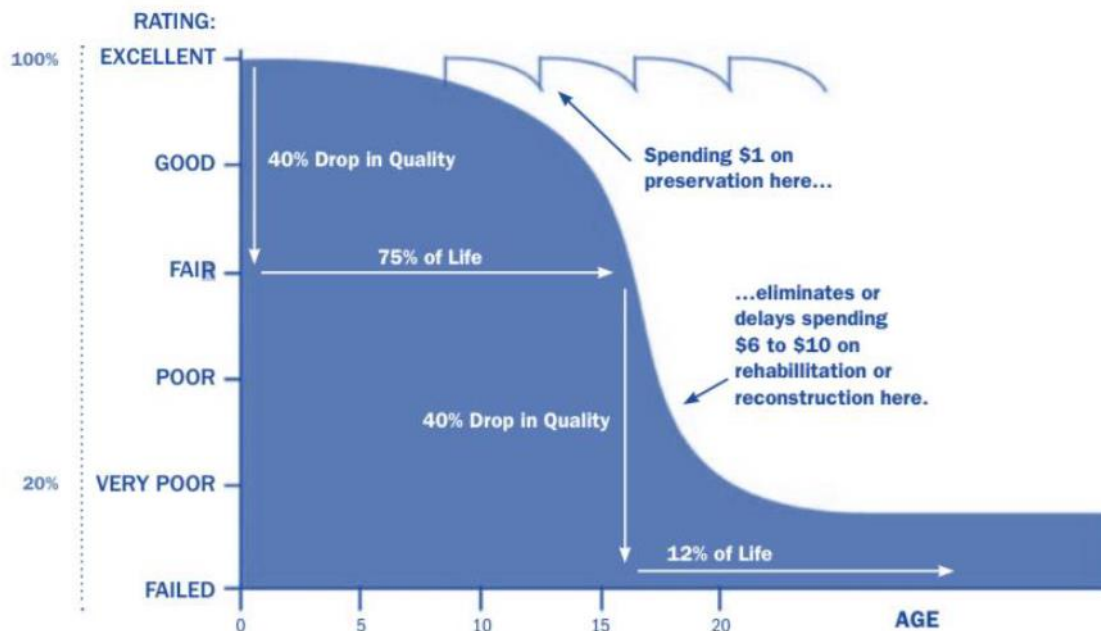
While points one and two above speak to setting targets to guide future work, the first one points Lakeshore in a new policy direction. Previously the approach was to wait for the road to require reconstruction to address pavement issues. Lakeshore has now adopted an approach whereby resurfacing takes place at the critical point in the pavement lifecycle in order to extend the road infrastructure with appropriate treatments. This will reduce long term costs and improve road quality.

The 5 Year Plan maps out the road construction into three categories for each year as follows:

- 1) Capital Reconstruction Program – consist of full road construction involving road excavation, road base and drainage improvements and for most in an urban setting upgrading to an urban standard with curbs, sidewalks, street lights, etc. These road projects are aligned with capacity improvements and/or underground infrastructure replacements such as watermain, sanitary or storm sewers.
- 2) Lifecycle Asphalt Resurfacing Program – consist of resurfacing the existing asphalt pavement by typically milling the surface and application of new asphalt surface course.
- 3) Lifecycle Surface Treatment Resurfacing Program – consist of resurfacing the existing surface treatment pavement by typically pulverizing the existing tar and chip surface, reshaping the granular base and application of new tar and chip stone surface known as surface treatment. This process also involves returning after the initial two lifts of tar and chip to apply a third lift which is an industry best practice for surface treatment roads.

The last two described above in essence are referred to as Lifecycle road rehabilitation activities that maintain the existing road pavement infrastructure and extend service life of the road if completed at the right time before road starts deteriorating as shown below.

Deterioration Curve Outlining Benefits of Lifecycle Activities



The 5 Year Road Plan provides line of sight for Lakeshore to understand and support road improvement decisions and increase understanding of when various roads will be

improved. It is important to note however that this Plan is subject to change as budget pressures, grant opportunities, unforeseen circumstances, and priorities of Council change.

While the pavement condition provides a good indicator from a timing of potential resurfacing it does not confirm the possibly of what pavement and granular road may exist on a given road. The Town has also started completing geotechnical work on the lifecycle road section to confirm road structure so the lifecycle investment is maximized on extending the road service life. This has occurred this year with Chambers Street which was identified for asphalt resurfacing but after completing the geotechnical it determined this road will require a full reconstruction to provide the appropriate road base.

Considering the current conditions with the pandemic, high lake levels, and other issues arising this year impacting the completion of all road work approved in the 2020 budget, there are three roads being recommended to be deferred to next year as shown on the attached Roads Capital and Lifecycle 5 Year Plan. These consist of Melody Drive which is impacted by high lake levels affecting constructability with increased costs for dewatering, Amy Croft Drive which is impacted by pandemic affecting progress on completion of design and construction anticipated to completed in 2021 and lastly Oriole Park Drive to consider final direction on pedestrian walkway that has been raised.

Financial Impacts

Although the recommendation in this report does not have any immediate financial implications, the Roads Capital and Lifecycle 5 Year Plan identifies a total of \$39.8 Million in road infrastructure investments averaging \$8 Million annually over the next 5 years from 2021 to 2025. The five year plan at the current lifecycle funding levels projects a \$4 Million shortfall in 2025 to complete the Patillo Road project that may require incurring debt if funding remains at current levels and no additional grants are realized for road projects.

The Town will need to work towards closing the gap in the roads lifecycle funding which has been identified above at \$10,500,000 (in 2019 dollars) annually. The current annual roads lifecycle base budget is \$5,346,700 before any inflationary adjustments. Although the Town has been applying gas tax and OCIF grant funding received towards funding road infrastructure projects, there are other significant infrastructure pressures that these grants could also provide relief such as with wastewater capital projects.

Further, the strategic financial model for the Town's road infrastructure sustainability will need to move towards being fully funded without reliance on the gas tax and OCIF grants. Going forward, recommendations from the Town's Asset Management Plan will identify a strategic financial model in budget years that follow to establish the \$10.5MIL (in 2019 dollars) annual lifecycle funding for paved roads.

Attachment(s): 1) Roads Capital and Lifecycle 5 Year Plan - List
2) Roads Capital and Lifecycle 5 Year Plan – Maps (5)

Report Approval Details

Document Title:	Roads Capital and Lifecycle 5 Year Plan.docx
Attachments:	<ul style="list-style-type: none">- 5Yr Roads Capital and Lifecycle Plan-(2021-2025).pdf- Map of Year 2021-5Year Road Plan2021_2025.pdf- Map of Year 2022-5Year Road Plan2021_2025.pdf- Map of Year 2023-5Year Road Plan2021_2025.pdf- Map of Year 2024-5Year Road Plan2021_2025.pdf- Map of Year 2025-5Year Road Plan2021_2025.pdf
Final Approval Date:	Jun 4, 2020

This report and all of its attachments were approved and signed as outlined below:

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Kristen Newman

Truper McBride