

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

## **Council Report**

**Report Number ENG2019-008**

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**Date:** March 19, 2019  
**Time:** 10:00 am  
**Place:** Council Chambers

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**Ward Community Identifier:** Ward 4

**Title:** **Cost-Benefit Analysis for Paving Zion Road**

**Author and Title:** Michael Farquhar, Supervisor of Technical Services  
Adam Found, Manager of Corporate Assets

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

**That** Report ENG2019-008, **Cost-Benefit Analysis for Paving Zion Road**, be received.

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

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

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

## **Background:**

At the January 22, 2019 regular Council Meeting the following resolution was passed:

### **CR2019-104**

**That** the November 19, 2018 correspondence from Mark Grossi, regarding the paving of Zion Road, be received;

**That** the matter be referred to staff for a cost benefit analysis of paving Zion Road; and

**That** staff report back to Council on the cost benefit analysis and a general discussion regarding gravel roads in general at the March 19, 2019 Committee of the Whole Meeting.

**CARRIED**

This report addresses that direction. At the Council Meeting of October 24, 2017, Council adopted the following resolution:

### **CR2017-933**

**RESOLVED THAT** staff be directed to investigate costing and service implications of revising the traffic volume threshold to warrant hard-topping of gravel roads from an Annual Average Daily Traffic (AADT) level of 400 to an AADT of both 200 or 300 with a report back to Council by end of Q2 2018.

**CARRIED**

In accordance with this direction, staff brought forward Council Report EA2018-014, attached hereto as Appendix A, on June 19, 2018. The report outlines the cost implications of paving gravel road sections with AADT of 200 or more. The report determined the financial benefit, in the form of reduced operating costs, was outweighed by the increased capital cost associated with paving these gravel road sections. The section of Zion Road between the existing hi-float and Fingerboard Road was one of the road sections analyzed in Report EA2018-014.

At the Council Meeting of June 19, 2018, Council adopted the following resolutions:

### **CR2018-401**

**That** Report EA2018-014, **Implications of Lowering the Traffic Volume Threshold for the Paving of Gravel Roads**, be received.

**CARRIED**

**CR2018-402**

**That Report EA2018-014, Implications of Lowering the Traffic Volume Threshold for the Paving of Gravel Roads**, be referred back to staff to the 2019 budget for consideration and staff be directed to develop the criteria for hard surfacing roads on a go forward basis and to include future possible funding options.

**CARRIED**

During the formation of the 2019 Tax-Supported Capital Budget, staff addressed this direction by reconsidering the criteria and funding options for upgrading gravel roads to a paved surface. Through this exercise, staff again reasoned to not lower the 400 AADT threshold given the findings of Report EA2018-014 and that the paving of gravel roads is not accommodated within the 5-Year Roads Capital Plan, the Asset Management Plan or the Long-Term Financial Plan. The proposed 2019 Tax-Supported Capital Budget reflects this reasoning.

**Rationale:**

Zion Road is classified as an east-west rural local road spanning 13.05 km from Simcoe Street (CKL Rd. 2) to 841 m east of Valentia Road. The most westerly 400 m is of a hi-float (i.e. hardtop) surface with a posted speed limit of 60 km/h. The 12.65 km balance of the road is of a gravel surface with an unposted speed limit of 80 km/h. Table 1 contains selected statistics for Zion Road by section as defined in the City's asset registry.

<b>Table 1: Selected Statistics for Zion Road by Section</b>					
<b>From</b>	<b>To</b>	<b>Surface Type</b>	<b>Length (Km)</b>	<b>Estimated Traffic Volume (AADT)</b>	
				<b>2016</b>	<b>2019</b>
Simcoe St.	400m East of Simcoe St.	Hi-Float	0.400	205	214
400m East of Simcoe St.	Fingerboard Rd.	Gravel	2.667	205	214
Fingerboard Rd.	Beacraft Rd.	Gravel	3.051	116	121
Beacraft Rd.	Eldon Rd.	Gravel	3.051	77	81
Eldon Rd.	Valentia Rd.	Gravel	3.040	183	191
Valentia Rd.	East End	Gravel	0.841	55	58
<b>Total</b>			<b>13.050</b>	<b>139</b>	<b>146</b>
<b>Gravel Sections Only</b>			<b>12.650</b>	<b>137</b>	<b>144</b>

Traffic volume in Table 1, as measured by Annual Average Daily Traffic (AADT), is based on the 2016 Roads Needs Study and an indexation factor of 1.5% per year to account for the estimated growth in traffic volume since 2016. For 2019, the only gravel section exceeding 200 AADT is that from the existing hi-float section to Fingerboard Road. Average traffic volume for the entire road and for the gravel sections thereof remain low at an estimated 146 and 144 AADT, respectively. As these volumes are far below the 400 AADT threshold for paving, staff does not recommend paving the gravel sections of Zion Road.

### Other Alternatives Considered:

Zion Road is approved for rehabilitation and gravel resurfacing in 2019. Even if gravel resurfacing were substituted with paving (i.e. double surface treatment), rehabilitation would still be required. Based on resurfacing unit costs underlying Report 2018-014, Table 2 estimates an incremental capital cost of \$1,000,395 to pave Zion Road's 12.65 km of gravel surface in 2019. As this increased capital cost is considerable and not accommodated by the City's capital and financial plans, and as the gravel sections' AADT (144) remains well below the threshold (400) for upgrade to hi-float, staff recommends maintaining the subject 12.65 km as gravel surface. This recommendation aligns with the findings of Report EA2018-014.

Table 2: Estimated 2019 Capital Cost by Scenario for 12.65 Km Gravel Portion of Zion Road		
Scenario	Capital Work	Cost (2019\$)
Maintain Gravel Surface	Rehabilitation	141,239
	Gravel Resurfacing	223,543
	Total	364,782
Upgrade to Hi-Float Surface	Rehabilitation	141,239
	Double Surface Treatment	1,223,938
	Total	1,365,177
Incremental Cost		1,000,395

### Financial/Operation Impacts:

Should Council nonetheless direct staff to pave the gravel sections of Zion Road in 2019, it must identify how this capital work is to be funded. Unless Council is willing to reduce funding and thus service levels elsewhere in the City's service portfolio, whether now or in the near term, or increase the tax-supported debt ceiling, such a course is financially feasible only if the 2019 tax levy is increased by almost 1% or a capital charge or similar local levy is imposed on benefitting properties.

Regardless of the funding mechanism(s) adopted, the precedent set by paving the gravel sections of Zion Road can be expected to induce further requests of the City to pave other gravel road sections failing to meet the hi-float service level threshold of 400 AADT. The potential financial obligations arising from such expectations in future, as indicated for high-volume gravel roads in Report EA2018-014, are substantial and ought to therefore be carefully considered respecting a decision to pave the gravel sections of Zion Road.

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

The recommendations of this report align with Goal 1 of the Corporate Strategic Plan: A Vibrant and Growing Economy. They also align with the following strategic enablers: (i) Responsible Fiscal Resource Management and (ii) Efficient Infrastructure and Asset Management.

### **Consultations:**

Director of Engineering and Corporate Assets

### **Attachments:**

Appendix A: Report EA2018-014 Implications of Lowering the Traffic Volume Threshold for the Paving of Gravel Roads



Appendix A- Report  
EA2018-014.pdf

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