

The Corporation of the City of Kawartha Lakes

Agenda

Special Council Meeting

CC2019-10

Tuesday, March 19, 2019

Open Session Commencing at 10:00 a.m.

Council Chambers

City Hall

26 Francis Street, Lindsay, Ontario K9V 5R8

Members:

Mayor Andy Letham

Deputy Mayor Doug Elmslie

Councillor Ron Ashmore

Councillor Pat Dunn

Councillor Patrick O'Reilly

Councillor Tracy Richardson

Councillor Kathleen Seymour-Fagan

Councillor Andrew Veale

Councillor Emmett Yeo

Accessible formats and communication supports are available upon request.

1.	Call to Order	
2.	Adoption of Agenda	
3.	Disclosure of Pecuniary Interest	
4.	Deputations	
5.	Presentations	
5.1	CC2019-10.5.1	
	Roads 101 Council Orientation	
	Doug Elmslie, Deputy Mayor	
	Jennifer Stover, Director of Corporate Services	
	Juan Rojas, Director of Engineering and Corporate Assets	
	Bryan Robinson, Director of Public Works	
6.	Reports	
6.1	ENG2019-008	3 - 12
	Cost Analysis for Paving Zion Road	
	Michael Farquhar, Supervisor, Technical Services	
	Adam Found, Manager of Corporate Assets	
	That Report ENG2019-008, Cost Analysis for Paving Zion Road , be received.	
7.	Correspondence	
8.	Closed Session	
9.	Matters from Closed Session	
10.	Confirming By-Law	
10.1	CC2019-10.10.1	13 - 13
	A By-law to Confirm the Proceedings of a Special Meeting of Council, Tuesday, March 19, 2019	
11.	Adjournment	

The Corporation of the City of Kawartha Lakes

Council Report

Report Number ENG2019-008

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

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

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.

Table 1: Selected Statistics for Zion Road by Section					
From	To	Surface Type	Length (Km)	Estimated Traffic Volume (AADT)	
				2016	2019
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
Total			13.050	139	146
Gravel Sections Only			12.650	137	144

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

Department Head E-Mail: jrojas@kawarthalakes.ca

Department Head: Juan Rojas, Director of Engineering and Corporate Assets

The Corporation of the City of Kawartha Lakes

Council Report

Report Number EA2018-014

Date: June 19th, 2018

Time: 2:00 p.m.

Place: Council Chambers

Ward Community Identifier: All Wards

Title: Implications of Lowering the Traffic Volume Threshold for the Paving of Gravel Roads

Description: This report reviews the estimated servicing and financial implications of lowering the traffic volume threshold for the paving of gravel roads.

Author and Title: Adam Found, Manager of Corporate Assets

Recommendation(s):

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

Department Head:_____

Financial/Legal/HR/Other:_____

Chief Administrative Officer:_____

Background:

At the Council Meeting of October 24th, 2017, Council adopted the following resolution:

CR2017-933

Moved By Councillor Strangway

Seconded By Councillor Elmslie

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

This report addresses that direction.

The implications of lowering the gravel-to-hardtop threshold of 400 AADT (measured in vehicles per day) was previously examined by staff in 2013 through Council report PW2013-015, attached hereto as Appendix A. Based on that examination and budgetary constraints, the report did not recommend lowering the threshold. Through CR2017-933, Council has directed staff to revisit this matter and bring forward the present report to Council.

Rationale:

According to the 2016 Roads Needs Study, the City has an inventory of approximately 895Km of assumed gravel road, of which an estimated 52Km have AADT of 200 or larger. The inventory of gravel roads making up this latter figure is summarized in Appendix B attached hereto. In terms of the service level categories underlying the 10-Year Gravel Resurfacing Plan, this inventory is distributed as follows:

1. 200 ≤ AADT < 300: 40.85Km
2. 300 ≤ AADT < 400: 9.20Km
3. 400 ≤ AADT: 1.76Km

Hereinafter, this inventory is referred to as “high-volume gravel roads”. Due to general growth in traffic volume, the quantity of high-volume gravel roads has increased by about 4.0Km between 2011 and 2016. Also owing to such growth, about 1.76Km of gravel road now surpasses the 400 AADT warrant threshold for paving. Still, high-volume gravel roads represent less than 6% of the total of 895Km of gravel road assumed by the City.

For the purpose of this report, the term “paving” refers to the upgrading a gravel road to a hardtop surface through the application of surface treatment (aka tar and chip). As discussed at length in Report PW2013-015, a natural tradeoff exists respecting the paving of a gravel road. On the one hand paving provides for an enhanced service level and decreased operating costs, while on the other it entails increased lifecycle (capital + operating) costs primarily due to the relatively large upfront capital investment required.

While operational efficiencies arise from the paving of a gravel road, this benefit, at current lifecycle cost trends and service levels, is more than offset by the increased capital costs associated with surface treatment. This holds even in the case of high-volume gravel roads, which are on an enhanced gravel resurfacing cycle (5-8 years instead of the standard 10 years).

Hence, the increased service level conferred by paving a gravel road must be weighed against the associated increased lifecycle cost. At the centre of this report is the 400 AADT mark the City has fixed for the purpose of this weighing of benefits and costs. That is, a gravel road is considered a candidate for paving once its traffic volume reaches at least 400 AADT.

Table 1: Projected Lifecycle Costs for High-Volume Gravel Roads Over 15 Years if Left Unpaved (2019\$)							
Traffic Volume Range	Length (Km)	Capital	Operating				Total
		Gravel Resurfacing	Calcium Chloride	Grading	Winter Control	Other Maintenance	
200 ≤ AADT < 300	40.850	1,413,640	964,994	793,557	2,360,921	2,368,389	7,901,501
300 ≤ AADT < 400	9.201	447,135	217,356	178,742	531,777	533,459	1,908,469
400 ≤ AADT	1.758	90,675	41,529	34,152	101,605	101,926	369,886
Total	51.809	1,951,450	1,223,879	1,006,451	2,994,302	3,003,774	10,179,856

Table 2: Projected Lifecycle Costs for High-Volume Gravel Roads Over 15 Years if Paved in 2019 (2019\$)							
Traffic Volume Range	Length (Km)	Capital			Operating		Total
		Double Surface Treatment	Single Surface Treatment	Pulverization	Winter Control	Other Maintenance	
200 ≤ AADT < 300	40.850	3,952,374	902,454	306,494	2,360,921	2,157,764	9,680,008
300 ≤ AADT < 400	9.201	890,238	203,270	69,035	531,777	486,018	2,180,337
400 ≤ AADT	1.758	170,094	38,838	13,190	101,605	92,862	416,589
Total	51.809	5,012,706	1,144,562	388,719	2,994,302	2,736,643	12,276,933

Table 3: Projected Incremental Lifecycle Costs Over 15 Years if High-Volume Gravel Roads are Paved in 2019 (2019\$)				
Traffic Volume Range	Length (Km)	Capital	Operating	Total
200 ≤ AADT < 300	40.850	3,747,682	-1,969,175	1,778,507
300 ≤ AADT < 400	9.201	715,408	-443,540	271,868
400 ≤ AADT	1.758	131,448	-84,745	46,702
Total	51.809	4,594,538	-2,497,460	2,097,077

Based on current service levels, maintenance practices and various recent data (e.g. tender prices, Financial Information Return reports etc.), Tables 1-3 summarize lifecycle cost projections for high-volume gravel roads depending on whether they remain with a gravel surface or are paved. To provide for comparability between gravel and hardtop road surfaces, the tables align with the 15-year lifecycle expected of a hardtop road surface whereby paving is set to occur in 2019. For simplicity, cost figures in the tables are normalized to 2019 dollars, based on an assumed inflation rate of 2%/year, and have not been discounted to present value.

Double surface treatment of high-volume gravel roads is estimated to cost about \$5.0M if done in 2019. This does not include future capital costs associated with single surface treatment (a capital intervention typically in year 8 to maintain the 15-year lifecycle) and eventual pulverization of the hardtop road surface at the end of its lifecycle. Table 3 projects incremental lifecycle costs by cost type, indicating renewal and operation of high-volume gravel roads, if paved, would cost an estimated \$2.1M more over the 15-year horizon.

Other Alternatives Considered:

As staff is not recommending a change to the 400 AADT threshold, no alternatives to Council's receiving this report are being considered or proposed by staff at this time. Should Council nonetheless resolve to lower this threshold, staff suggests direction of the following form, where "X" stands for the new desired threshold, be added to the resolution of the present report:

"That proposed capital budgets identify for upgrade to a hardtop surface only those gravel roads for which the annual average daily traffic (AADT) is at least "X" vehicles per day; and

That updates to the 5-Year Roads Capital Plan, 10-Year Gravel Resurfacing Plan, Asset Management Plan and Long-Term Financial Plan reflect this enhanced level of service."

Financial/Operation Impacts:

Council's receiving this report has no financial impact. However, should Council elect to lower the 400 AADT threshold, the expected resulting financial impacts are those indicated by Tables 1-3 herein.

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

N/A

Consultations:

Supervisor of Technical Services

Attachments:

Appendix A: Report PW2013-015



Report
PW2013-015.pdf

Appendix B: Inventory of High-Volume Gravel Roads



Inventory of
High-Volume Gravel R

Department Head E-Mail: jrojas@kawarthlakes.ca

Department Head: Juan Rojas, Director of Engineering and Corporate
Assets

The Corporation of the City of Kawartha Lakes

By-law 2019-XXX

A By-Law to Confirm the Proceedings of a Special Meeting of Council, Tuesday, March 19, 2019

Recitals

1. The Municipal Act, 2001, S.O. 2001 c. 25 as amended, provides that the powers of a municipal corporation are exercised by its Council.
2. The Municipal Act, also provides that the Council's powers must be exercised by by-law.
3. For these reasons, the proceedings of the Council of The Corporation of the City of Kawartha Lakes at this meeting should be confirmed and adopted by by-law.

Accordingly, the Council of The Corporation of the City of Kawartha Lakes enacts this By-law 2019-XXX.

Section 1.00: Confirmation

- 1.01 The actions of the Council at the following meeting:

Tuesday, March 19, 2019, Open Session, Special Council Meeting

and each motion, resolution and other action passed or taken by the Council at that meeting is, except where prior approval of the Ontario Municipal Board is required, adopted, ratified and confirmed as if all such proceedings had been expressly embodied in this By-law.

- 1.02 The Mayor and the proper officials of the City are authorized and directed to do all things necessary to give effect to the actions of the Council referred to in Section 1.01 of this By-law. In addition, the Clerk is authorized and directed to affix the corporate seal to any documents which require it.

Section 2.00: General

- 2.01 This By-law shall come into force on the date it is finally passed.

By-law read a first, second and third time, and finally passed, this 19th day of March, 2019.

Andy Letham, Mayor

Cathie Ritchie, City Clerk