2016 Roads Needs Study

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1.0 INTRODUCTION

It has become apparent to Council and Township staff that available information on the road system needs to be updated in order to make informed decisions on improvements to the Township's infrastructure. The Township recognizes that in order to sustain services for its residents and for the competitiveness of its business, agriculture and industry, it must manage the Municipality's assets cost effectively. The Road Needs Study provides Council and staff with an inventory of all roads, a comprehensive review of existing conditions and a plan to repair and maintain the road network to a satisfactory level of service.

The purpose of the Road Needs Study is to inventory and assess the road network within the Municipality from which a financial program for the maintenance and capital improvements can be derived. The study will provide the Municipality with a suggested capital program in order to manage the road network over the next 10 years.

The Road Needs Study will:

- Inform council on the current and future needs of their road system,
- Formulate the most cost-effective long-term maintenance and construction strategies within current/proposed budgetary limitations,
- Provide a projection of the future adequacy of the road system,
- Provide a suggested year-by-year work plan for Council (over the next 10 years).

The Study contains the following:

- An updated inventory of the Municipality's road network,
- Itemized condition of all roadways in the network,
- Detailed recommendations on improvements to deficient roadways,
- A cost-effective long-term maintenance and construction strategy with specific consideration of budgetary restrictions,
- Complete up-to-date maps of the Township's roadway system for future reference,
- A suggested year-by-year work plan for the Township to use as a frame of reference for future resource allocation,
- Recommended 10-year capital improvement plan using current/proposed expenditure levels,
- Capital construction requirements that cannot be realized within the current budget.

Some of the major benefits of conducting a Road Needs Study are:

A. Systematic Approach

- Roads prioritized based on needs.
- Limited resources allocated to cost-effective projects.
- Council can justify why a road was or was not selected for improvements.

B. Long Term Strategy

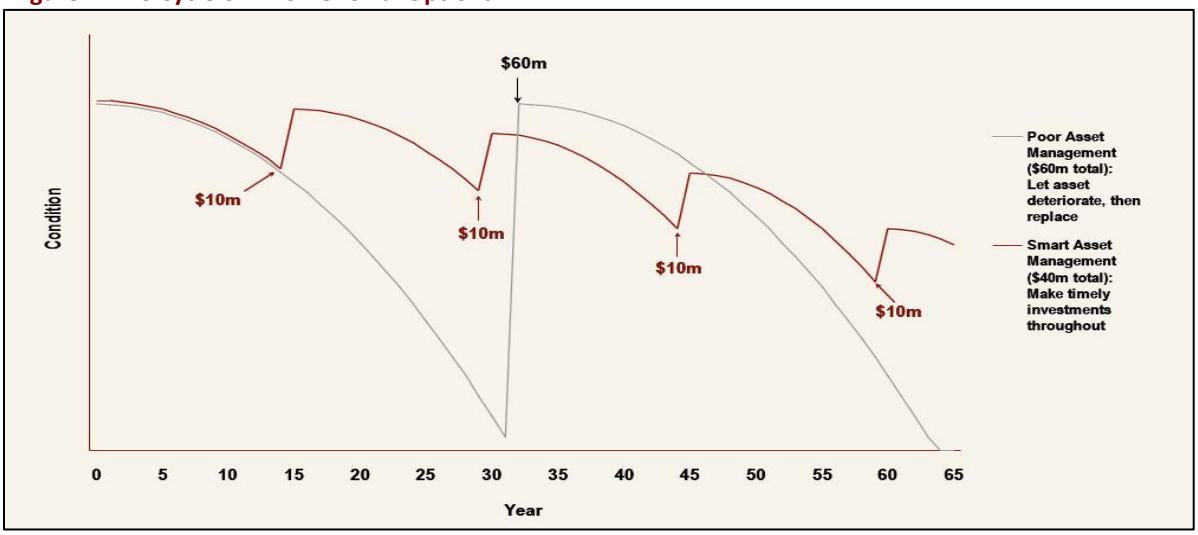
- Tax dollars will be spent strategically.
- 10-year plan spans between terms of Council.
- Saves Council staff time in formulating program each year.

C. Benchmark

- Can project future adequacy of the road system.
- Can compare with other Municipalities.
- Justification for tax increase and/or shifting priorities to address spending shortfalls.

This Road Needs Study has been developed with an emphasis on timely capital repairs in order to best preserve assets while maintaining the desired level of service to the public. The plan takes a long view perspective on managing assets through life cycle cost analysis in which timely rehabilitation can save money in the long term. For example, Figure 1 shows two ways to manage an asset. The first option is to allow the asset to deteriorate until it needs to be replaced, while the second option shows timely rehabilitation. At the end of the 64-year life cycle, Option 1 costs $120 million (the initial investment plus the cost to replace the asset) and Option 2 costs $100 million the initial investment plus maintenance costs). Note that the asset's condition in Option 2 is far better than in Option 1.

Figure 1: Life Cycle of Two Renewal Options



(Resource from "Building Together, Guide for Municipal Asset Management Plans", Ministry of Infrastructure, Ontario)

2.0 STUDY METHODOLOGY

The Ministry of Transportation of Ontario "Inventory Manual for Municipal Roads for Small Lower Tier Municipalities" has been used in preparing this study and is briefly outlined below.

1. All road sections are listed and their condition rating by road type:
    a. Earth Roads (Listed in inventory but not rated. Typically, these roads have little or no maintenance, only used seasonally),
    b. Gravel Roads,
    c. Surface Treated or Low Class Bituminous (LCB) Roads,
    d. Hot Mix Paved or High Class Bituminous (HCB) Roads.

2. With the exception of Earth Roads, future condition ratings are calculated for each road and from this, predicted maintenance and capital expenditures can be produced. Newly reconstructed roads have a 10 point condition rating, and roads requiring partial reconstruction are assigned three points. Roads should not be allowed to go below three points due to the severity of the road conditions, e.g. very poor ride, difficult to maintain, usually a safety hazard.

   Generally speaking, the Township of North Glengarry roads have low traffic volumes, which are consistent throughout its road network. It has been assumed that asphalt roads will need to be resurfaced within 15 years and if not resurfaced, then reconstructed in 30 years. Note that one cannot perpetually resurface and at some point the road must be reconstructed. It has been assumed that a surface treated road has a life expectancy of approximately 15 years before reconstruction is required.

   The above noted life cycle assumptions should not have a great impact on the overall assessment of the road network, but some roads may experience slower or faster rates of deterioration. The capital program may need to be adjusted (e.g. A street scheduled for reconstruction in year 10 may have to be moved up in the ten year capital program and vice versa, a street scheduled for year 3 could be pushed back since its condition has not deteriorated as fast as earlier predicted) to account for this and other factors such as variations in pavement structure, sub-surface conditions, drainage, and truck traffic.

   Through regularly measuring the performance of its road system (e.g. Road Needs Study every 5 years, ongoing traffic counts, etc.), the Municipality will be able to better predict the deterioration rates of individual segments and therefore the overall network.

The condition rating for each road type will decrease every year unless maintenance and/or rehabilitation are performed. For gravel roads it is assumed that the condition of the road will be maintained with regular gravel resurfacing. As noted above, hard surface roads with no maintenance and/or rehabilitation (which is not recommended) will need reconstruction within 15 years for surface treated roads and approximately 30 years (depending on AADT) for asphalt roads. The following calculations show the anticipated rate of deterioration of the three surface types:

Asphalt: $\frac{\text{10 point condition rating – 3 point condition rating}}{\text{30 year life cycle before reconstructing}} = 0.23/\text{yr}$

Surface Treatment: $\frac{\text{10 point condition rating – 3 point condition rating}}{\text{15 year life cycle before reconstructing}} = 0.47/\text{yr}$

Gravel: No change in rating with regular maintenance.

Based on the foregoing discussion, Table 1 provides an example of how the condition rating is forecasted for each surface type. In this example, it is assumed that for each road type the road was reconstructed in 2016.

TABLE 1 - FORECASTING CONDITION RATING EXAMPLE

SURFACE TYPE	2016	2017	2018	2019	2020	2021
GRAVEL[1]	10.00	10.00	10.00	10.00	10.00	10.00
SURFACE TREATMENT	10.00	9.53	9.07	8.60	8.13	7.67
ASPHALT (AADT<600)	10.00	9.77	9.53	9.30	9.07	8.83

[1] Gravel Roads have a stable unchanging life expectancy, as long as routine loose top maintenance is performed. Gravel roads will remain this way until improvements are made.

3. The average condition rating is determined for each road type by summing the product of length multiplied by the condition rating and then dividing by the total length of the road system. This will result in an average condition rating for the three road surface types. An example is demonstrated in Table 2, below:

TABLE 2 - AVERAGE CONDITION RATING BY SURFACE TYPE EXAMPLE

STREET	LENGTH (L)	CONDITION RATING (CR)	PRODUCT L x CR
1	1.00	7.00	7.00
2	2.00	3.00	6.00
3	3.00	5.00	15.00
TOTAL	**6.00**		**28.00**

Where: Average Condition Rating = $\frac{\text{SUM(L x CR)}}{\text{Total Length}} = \frac{28.00}{6.00} = 4.67$

By combining the three surface types an overall condition rating can be calculated for the total Municipal system. Table 3 is a measure of the condition of the road system.

TABLE 3 – SYSTEM CONDITION

AVERAGE CONDITION RATING	SYSTEM CONDITION
8 to 10	Good structural condition.
	Some local improvements may be needed.
5 to 7	Average structural condition.
	Some continued improvement may be needed.
Less than 5	Poor structural condition.
	Substantial improvement needed throughout total road system.

4. The above noted analysis will determine if and when a road requires improvements within the next ten years.

5. In developing the priority of road improvements, the first consideration for the available funds is for asphalt resurfacing projects, i.e. those road sections with a study year condition rating of 5. This will upgrade those roads at a reasonable cost that if not improved, will continue to deteriorate to a point where only major and costly improvements will restore the structural strength of the road.

   If funds are available after addressing the needs of the roads with a condition rating of 5, they should be applied to the road improvements that would provide the best cost/benefit return. The method used in this study reviews the cost of reconstruction versus the Average Annual Daily Traffic (AADT).

   As an example, if one street is a Dead End and one street is a minor collector, and both cost the same per kilometer to reconstruct, then the minor collector would be selected over the dead end, since it serves more commuters.

Other factors that may have to be considered are safety, truck traffic, development, economics, social implications, and scheduling construction with other infrastructure works, e.g. County or Ministry of Transportation projects.

6. To determine the cost of construction, benchmark costs are used and are associated with the type of capital improvement. Average unit costs have been developed based on local construction costs.

   Fixed costs are costs associated with maintenance of the existing road system and include overhead, salaries, etc. Fixed costs are generally met from the Township's budget prior to capital construction funds being allocated. Fixed costs for forecast requirements were derived from historical expenditures.

   This report presents historical information with no adjustment for inflation. For future capital expenditures, the report presents cost estimates in 2015 dollars. At the time of budgeting, the Municipality should adjust capital expenditure by an appropriate cost of inflation.

7. The ten year capital program presented in this report is a tool for Municipal Staff and Council in selecting the ten year program. As mentioned above, there may be other factors that must be considered and/or adjusted in order to reflect changes not foreseen at the time of writing this report.

3.0 ROAD STANDARDS

Most municipalities in Ontario either adopt or utilize the following manuals in developing their design and construction standards:

- Transportation Association of Canada (TAC) Geometric Design Guide for Canadian Roads,
- Ontario Provincial Standards (OPS) for Roads and Municipal Services,
- Ontario Traffic Manual, and
- Ministry of Transportation of Ontario, Drainage Management Manual.

Ministry of Transportation of Ontario's Directive B-36, October 1985, applied to municipalities that were applying for subsidies. This directive no longer applies, but its brief format is easy to use and is summarized on the following page. It is McIntosh Perry's recommendation that these standards be followed.

TABLE 4 – GEOMETRIC DESIGN STANDARDS FOR RURAL TWO-LANE ROADS

DESIGN YEAR AADT	DESIGN SPEED (Km/hr)	MAX. GRADE (%)	WIDTH (m)	
			LANE	SHOULDER[3]
2,000 to 1,000	90	6-8	3.25	2.00
	80	6-8	3.25	2.00
	70	6-12	3.00	1.00
	60	6-12	3.00	1.00
1,000 to 400	80	8	3.25[1]	1.00[2]
	70	12	3.00	1.00[2]
	60	12	3.00	1.00[2]
	50	12	3.00	1.00[2]
Less than 400	80	8	3.25[1]	1.00[2]
	70	12	3.00	1.00[2]
	60	12	3.00	1.00[2]
	50	12	2.75	1.00[2]

[1] A 3.0m lane width may be acceptable where type size and volume of trucks are not significant.

[2] 0.5m shoulders permitted where there is no foreseeable possibility of the road being paved within a 20-year period. Note: 1.0m shoulder must be used where guide rail is installed.

[3] Shoulder width may be reduced by 0.5m if paved. Shoulder width does not incl. rounding (0.5m).

TABLE 5 – ALIGNMENT STANDARDS

DESIGN SPEED (Km/hr)	MINIMUM[1] CURVE RADIUS (m)	MININUM STOPPING DISTANCE (m)	MINIMUM[2] CREST CURVE K (m)	MINIMUM[2] SAG CURVE K (m)	MINIMUM[3] SAG CURVE ILLUMINATED AREAS K (m)
40	55	45	4	8	4
50	90	65	8	12	5
60	130	85	15	18	8
70	190	110	25	25	12
80	250	135	35	30	15
90	340	160	50	40	20

[1] Minimum curve radius based on maximum super elevation of 0.06 m/m.

[2] Minimum curve parameter based on stopping distance.

[3] Minimum curve parameter based on comfort criteria. Utilize in illuminated areas only when stopping sight distance requirements are met.

TABLE 6 – GEOMETRIC DESIGN STANDARDS FOR TWO-LANE URBAN ROADS

DESIGN YEAR AADT	DESIGN SPEED (Km/hr)	LANE WIDTH (m)	PARKING LANE WIDTH (m)	MIN. CURB TO CURB DISTANCE (m)	MAXIMUM GRADE (%)
2,000 to 1,000	60-70	3.25	2.50 - 3.00	9.5	6 - 12
	50	3.00	2.50 - 3.00	9.0	8 - 12
Less than 1,000	40-50	2.75 - 3.00	2.50 - 3.00	8.5	8 - 12

Note: The desirable minimum sidewalk width is 1.5m.

Table 7 shows the recommended surface type based on AADT.

TABLE 7 – SURFACE TYPE STANDARDS FOR RURAL ROADS

AADT AT TIME OF CONSTRUCTION	SURFACE TYPE[1]
0 - 400	Gravel
400 - 700	Low Class Bituminous[2]
700 - 2,000	For Lower Volumes in Range: 40mm of Hot Mix[3]
	For Higher Volumes in Range: 50mm of Hot Mix

[1] The grade upon which the surface type is to be applied is assumed to be structurally adequate. Typically, the base is 150mm Granular 'A' and 300mm Granular 'B', Type II.

[2] Apply surface treatment 0.25m wider than lane width, e.g. for 3.0m lane width, apply 3.25m wide.

[3] It has been McIntosh Perry's experience that Hot Mix should be used instead of surface treatment if (1) there is abnormally high percentage of truck traffic or heavy farm equipment, and/or (2) there is closely spaced residential that is set-back less than 30m from the road, e.g. villages and rural estate subdivisions. It has been McIntosh Perry's experience that increasing this to 50mm is cost effective in the long term.

Table 8 on the following page lists other criteria that should be reviewed when selecting road surface type. Urban roads are typically constructed as asphalt roads; however rural roads have various options depending on a number of factors. These factors have been summarized in the following table.

TABLE 8 – SUITABILITY OF SURFACE TYPE FOR RURAL ROADS

PARAMETER	GRAVEL	SURFACE TREATMENT	ASPHALT
AADT			
0 - 400	X	X	X
400 - 1,000		X	X
1,000 - 2,000			X
Above 2,000			X
TRUCK TRAFFIC			
0 - 5%	X	X	X
5 - 15%		X	X
Above 15%			X
HIGHWAY CLASSIFICATION			
Local	X	X	X
Collector			X
Arterial			X
ADJACENT LAND USES			
Agricultural	X		X
Commercial			X
Forestry	X	X	X
Industrial			X
Institutional			X
Residential			
5+ Acre Lots	X	X	X
Cluster Development of 2 - 5 Acre Lots			
Front Yard Set Back 15m of less			X
Front Yard Set Back 15m of more		X	X
2 Acre Lot Subdivisions			X

4.0 BENCHMARK COSTS

Benchmark costs are costs associated with capital improvements to the Township's roads. These costs can also be for new road construction or capital expenditure to improve a road to a higher standard. For example, upgrading a gravel road to a surface treated or paved road. Average unit costs have been developed based on local construction costs.

The estimated cost for identified improvements to the Township's road system is calculated on an approximate basis, using average benchmark costs for various items. These costs have been averaged using unit cost information obtained locally. Unit prices are shown in Table 9 below and costs are summarized by construction type in Tables 10, 11 and 12. These costs are based on 2016 dollars and adjustments should be made for inflation for each budget year.

TABLE 9 – UNIT PRICES

ITEM	2016 unit price	
Earth Excavation, Grading	$ 12.00	per cubic metre
Earth Excavation, Ditching	$ 17.00	per metre
Road Widening per Shoulder	$ 31.00	per metre
Removal – Pulverize	$ 1.00	per square metre
Removal – Asphalt	$ 5.00	per square metre
Removal – Mill Wear Course	$ 6.00	per square metre
Removal – Concrete Curb	$ 7.00	per metre
Removal – Concrete Sidewalk	$ 21.00	per square metre
Remove and Replace 16m x 600mm Diameter CSP	$ 5,796.00	each
Granular A	$ 15.00	per tonne
Granular B	$ 15.00	per tonne
Single Surface Treatment (SST)	$ 3.00	per square metre
Double Surface Treatment (DST)	$ 6.00	per square metre
Asphalt – Wear Course	$ 116.00	per tonne
Asphalt – Base Course	$ 116.00	per tonne
Tack Coat	$ 1.00	per square metre
Iron Adjustment	$ 580.00	each
Concrete Sidewalk	$ 99.00	per square metre
Concrete Barrier Curb	$ 87.00	per metre
Topsoil & Sod	$ 17.00	per square metre
Topsoil & Seed	$ 6.00	per square metre
Rout & Seal	$ 2.90	per metre
Rejuvenating Oil	$ 1.74	per square metre

Benchmark costs for typical types of reconstruction for hard surface roads (resurfacing, partial reconstruction and full depth reconstruction) are summarized by in Tables 10 and 11. Full depth reconstruction includes an allowance for geotechnical investigation and testing as well as for engineering design and construction supervision. In some instances, the Municipality may also use a professional engineer for resurfacing and/or partial reconstruction due to the complexity of the project and/or workload. These costs are based on 2016 dollars and adjustments should be made for inflation for each budget year.

TABLE 10 – SURFACE TREATMENT OR LOW COST BITUMINOUS (LCB)

CODE	DESCRIPTION	UNIT PRICE ($ per km)
LCB-R1	**Resurfacing** Single surface treatment 6.0m wide	$20,000
LCB-R2	**Partial Depth Reconstruction** Pulverize or scarify, 50-150mm G.A., double surface treatment, 10% spot drainage improvements, culvert replacement & 10% contingency	$111,000
LCB-R3	**Full Depth Reconstruction** Earth exc., 150mm G.A., 300mm G.B., DST, culvert replacement, engineering, geotechnical & 10% contingency	$419,000

TABLE 11 – ASPHALT OR HIGH COST BITUMINOUS (HCB) RURAL ROADS

CODE	DESCRIPTION	UNIT PRICE ($ per km)
HCB-R1	**Resurfacing** 40mm lift of HL3 asphalt over 6.0m platform width & 10% contingency	$78,000
HCB-R2	**Pulverize and Pave** Pulverize, 50mm lift of HL4 asphalt, shouldering, 10% spot drainage improvements, culvert replacement & 10% contingency	$165,000
HCB-R3	**Full Depth Reconstruction** Remove asphalt, earth exc., 150mm G.A., 450mm G.B., 50mm Lift of HL4 asphalt, shouldering, culvert replacement, engineering, geotechnical & 10% contingency	$526,000
HCB-R4	**Rout and Seal** Routing of Cracks	$5,000
HCB-R6	**Rejuvenating Oil** Oil that penetrates an asphalt surface and restores the Maltene to asphalt ratio	$11,000

TABLE 12 – ASPHALT OR HIGH COST BITUMINOUS (HCB) SEMI-URBAN ROADS

CODE	DESCRIPTION	UNIT PRICE ($ per km)
HCB-S1	**Resurfacing** 40mm lift of HL3 asphalt over 6.0m platform width & 10% contingency	$102,000
HCB-S2	**Pulverize and Pave** Pulverize, 50mm lift of HL4 asphalt, shouldering, 10% spot drainage improvements, culvert replacement & 10% contingency	$234,000
HCB-S3	**Full Depth Reconstruction** Remove asphalt, earth exc., 150mm G.A., 50mm Lift of HL4 asphalt, shouldering, adjust iron, tie-in driveways, road culvert replacement, 10% spot drainage & 10% contingency	$758,000
HCB-S4	**Rout and Seal** Routing of Cracks	$5,000
HCB-S6	**Rejuvenating Oil** Oil that penetrates an asphalt surface and restores the Maltene to asphalt ratio	$11,000

TABLE 13 – ASPHALT OR HIGH COST BITUMINOUS (HCB) URBAN ROADS

CODE	DESCRIPTION	UNIT PRICE ($ per km)
HCB-U1	**Resurfacing** 40mm Lift of HL3 asphalt by 8.5m wide, adjust iron, milling & 10% contingency	$157,000
HCB-U2	**Partial Depth Reconstruction** Remove asphalt, 10% curb and sidewalk repairs, earth exc., 150mm G.A., 40mm lift of HL3 and 40mm lift of HL4 asphalt, adjust iron & 10% contingency	$397,000
HCB-U3	**Full Depth Reconstruction** Remove asphalt, curbs and sidewalk, earth exc., 150mm G.A., 300mm G.B., 2 lifts of asphalt, adjust iron, curbs, sidewalk, tie-in driveways and lawns, geotechnical, engineering & 10% contingency	$1,259,000
HCB-U4	**Rout and Seal** Routing of Cracks	$5,000
HCB-U6	**Rejuvenating Oil** Oil that penetrates an asphalt surface and restores the Maltene to asphalt ratio	$11,000

5.0 PAVEMENT PRESERVATION

In order to optimize the lifecycle of asphalt roads in the municipal road network, it is recommended that the operational budget include maintenance tasks. Implementation of pavement preservation activities will maintain the road condition at higher service levels and also reduce the long-term costs to sustain the infrastructure. Two maintenance strategies are proposed for the capital plan, specifically (1) Rout and Seal, and (2) Rejuvenating Oil. These strategies are further described below.

5.1 Rout and Seal

Rout and seal involves routing of cracks to a standard size, cleaning and heating of routed cracks with a lance, followed by hot poured rubberized asphalt including squeegee. By keeping the water out, it prohibits freeze/thaw reactions in winter, and guards against reduced strength due to water infiltration at other times, thus suspending the development of alligator cracks. Routing and sealing is not normally used in single lift pavements over granular, as routing can promote full depth cracking.

Routing and sealing is typically recommended in earlier portions of a pavement's lifecycle, with cracks less than 12mm in width and with less than 1,500 linear meters of cracks per kilometre of pavement, and can increase the life of an asphalt road by 3+ years. At a cost of $2.50 - $3.00 per linear metre, crack sealing represents a cost effective solution to pavement preservation.

5.2 Rejuvenating Oil

Rejuvenating oil penetrates the asphalt surface and restores the maltene to asphalt ratio by replacing oils in the asphalt that are lost over as asphalt ages and oxidizes. Rejuvenating oil improves the condition of asphalt and temporarily reverses the aging process by increasing pavement flexibility and preventing the surface from drying out. This increased flexibility also reduces the development and propagation of cracks.

Rejuvenating oil application is typically recommended around the seven to 10 year mark of a pavement's life cycle, and can increase the life of an asphalt road by 3+ years. At a cost of approximately $1.75 per square metre, rejuvenating oil represents another cost effective solution to pavement preservation.

6.0 RENEWAL AND RECONSTRUCTION STRATEGY

The optimum renewal and reconstruction strategy for preserving the structure of each road type over their lifecycle is presented in Table 14.

TABLE 14 – OPTIMUM RENEWAL AND RECONSTRUCTION STRATEGY

SURFACE TYPE	ENVIRONMENT	LIFE-CYCLE YEAR	STRATEGY	AVERAGE CONDITION RATING
GRAVEL	RURAL	N/A	Regular maintenance through gravel resurfacing	6.00
LCB (Surface Treated)	RURAL	0	Construction of Asset	6.45
		8	Single Surface Treatment Overlay	
		19	Partial Depth Reconstruction	
		25	Single Surface Treatment Overlay	
		36	Partial Depth Reconstruction	
		42	Single Surface Treatment Overlay	
		55	Full-Depth Reconstruction	
HCB (Asphalt)	RURAL / SEMI-URBAN	0	Construction of Asset	7.49
		8	Rejuvenating Oil	
		20	Asphalt Overlay	
		24	Rout and Seal Cracks	
		28	Rejuvenating Oil	
		52	Partial Depth Reconstruction	
		60	Rejuvenating Oil	
		68	Asphalt Overlay	
		72	Rout and Seal Cracks	
		76	Rejuvenating Oil	
		100	Full Depth Reconstruction	
	URBAN	0	Construction of Asset	7.81
		4	Rout and Seal Cracks	
		8	Rejuvenating Oil	
		24	Asphalt Overlay	
		28	Rout and Seal Cracks	
		32	Rejuvenating Oil	
		56	Partial Depth Reconstruction	
		60	Rout and Seal Cracks	
		64	Rejuvenating Oil	
		75	Asphalt Overlay	
		79	Rout and Seal Cracks	
		83	Rejuvenating Oil	
		100+	Full-Depth Reconstruction	

Based on the above-noted strategy, the ideal life-cycle for each road type has been developed and is presented in **Appendix A**. Table 15 summarizes the average condition rating and yearly life-cycle cost over the life of the asset using the above noted preservation strategy for hard surface roads. For comparison purposes, the lifecycle costs and overall average condition rating is also presented for an approach consisting only of reconstruction of asphalt roads.

TABLE 15 – LIFECYCLE CONDITION RATING AND COST

TYPE	ENVIRONMENT	AVERAGE CONDITION RATING OVER ASSET LIFE	LIFECYCLE COST PER YEAR PER KM
SURFACE TREATMENT (LCB)	RURAL	6.45	$ 12,745
ASPHALT (HCB) OPTIMUM LIFECYCLE	RURAL	7.49	$ 9 ,010
	SEMI-URBAN		$ 13,490
	URBAN	7.81	$ 20,340
ASPHALT (HCB) RECONSTRUCTION ONLY	RURAL	6.45	$ 10,210
	SEMI-URBAN		$ 14,600
	URBAN		$ 24,500

When compared to the 'reconstruction only' approach, lifecycle costs are substantially lower for the optimum lifecycle in which maintenance activities are given priority, while the average overall condition rating is considerably higher.

In developing the priority of road improvements, the first consideration for the available funds is for preserving the road system. Improvements to preserve the surface will be timed in order to provide the best value for maintaining the asset. Where the road has deteriorated to the point that only major and costly improvements will restore the structural strength of the road, improvements will be timed in order to take full advantage of the remaining life of the infrastructure, but not to the extent where the road falls below minimum maintenance standards.

The second major component in the decision matrix is the Average Annual Daily Traffic (AADT) which provides an indication on the number of users of the road network. Priority is given to roads with higher AADT. As an example, if one street is a dead end and one street is a minor collector, and both cost the same per kilometre to reconstruct, the minor collector would be selected over the dead end since it serves more commuters.

Other factors that may have to be considered are safety, truck traffic, development, economic, social and timely scheduling of construction to coincide with other infrastructure works (e.g. sewers, watermain, etc.).

7.0 HISTORICAL CAPITAL SPENDING

Road Needs Studies typically consider maintenance and capital budgets separately. Maintenance activities are routinely performed and maintain the road at the current level of service, while capital expenses improve Township assets (i.e. road structure, bridges, etc.) and replace major pieces of equipment. The Township's equipment and maintenance needs have been reviewed separately by the Township and as such this report focuses on capital expenditures relating to the roads. Historical capital spending for the past five (5) years is summarized in the table below:

TABLE 16 – 2011 TO 2015 BUDGETS

CATEGORY	2011	2012	2013	2014	2015
ROAD CONSTRUCTION	$1,066,000	$210,000	$228,333	$180,333	$452,333

Gravel resurfacing only temporarily adds strength to the road structure, but over time the material is lost to the roadside through winter plowing, traffic, etc. To replace the loss of gravel, material is added periodically, usually bi-annually or every five (5) years depending on traffic volumes. The historical gravel resurfacing budget for the Township has been approximately $254,000. Spending levels for gravel roads are lower than what one would normally expect given the number of lane kilometers of gravel roads, however the overall condition rating for loose top roads within the Township is adequate. At this time, there are no changes recommended to the gravel resurfacing program however the budget should be re-evaluated in five (5) years when the next study is completed.

Capital spending values forecasted for the next 10 years were based on average historic spending levels and have been used in developing the ten year plan as discussed in the following section of this report. Based on historical spending and discussion with Township staff, it is anticipated that the Municipality will spend an average of approximately $400,000 per year over the next 10 years. Capital budgets were projected and are presented in Table 17.

In addition to the capital budget for roads, the Municipality has received a total of $422,281 in funding through the Ontario Community Infrastructure Fund (OCIF) for 2017-2019. This funding will be directed at a number of now-deficient low-class bituminous roads in order to address more immediate needs, above and beyond the long term maintenance strategy of the 10-year capital plan. Proposed OCIF funding allocation for 2017-2019 are also presented in Table 17.

TABLE 17 – FORECAST 2017 TO 2026 BUDGETS

CATEGORY	2017	2018	2019	2020	2021
CAPITAL	$573,900	$423,200	$393,200	$407,800	$378,700
OCIF FUNDING	$ 91,198	$129,492	$201,591		

CATEGORY	2022	2023	2024	2025	2026
CAPITAL	$204,600	$403,100	$397,150	$404,950	$387,000

8.0 TEN YEAR CAPITAL PLAN FOR ROADS

This section has three sub-sections. The first deals with the existing condition of the road network, and provides a comparison to past condition ratings from 2011. The second presents a recommended Ten Year Capital Plan for Roads. The last section analyzes the adequacy of current spending levels on the road system, and estimates required spending in order to maintain the existing average condition rating.

8.1 Condition of Existing Road System

Table 18 presents the length and weighted average condition rating for Gravel Roads, Low Class Bituminous (LCB, or surface treated) and High Class Bituminous (HCB or asphalt) roads in 2016, compared to past condition ratings from previous appraisals completed in 2011.

TABLE 18 – 2011-2016 WEIGHTED AVERAGE CONDITION RATINGS

CATEGORY	Km	CONDITION RATING	
		2011	2016
GRAVEL	208.50	6.50	6.27
LOW CLASS BITUMINOUS (LCB)	75.10	5.91	5.03
HIGH CLASS BITUMINOUS (HCB)	79.16	5.44	5.10
HARD SURFACE ROADS	**154.26**	**5.69**	**5.07**
ALL ROADS	**362.76**	**6.11**	**5.76**

Approximately 210.45 km or 58% of the Township's roads are Gravel with an overall average condition rating of 6.27 in 2016, down from 6.50 in 2011. Although the condition rating for gravel roads has decreased in the past five years, the ideal condition rating for gravel should be between 6.0 and 7.0, therefore the condition rating of gravel roads is satisfactory and the Township's goal should be to maintain this rating with regular maintenance.

The remaining 42% of the Township's roads are hard surface roads, totalling 75.10 km and 79.16 km for Low Class and High Class Bituminous, respectively. The optimum overall condition rating for Low Class Bituminous (LCB or Surface Treatment) roads based on available pavement preservation treatments and lifecycle analysis is between 6.0 and 6.5. Similarly, for High Class Bituminous (HCB or Asphalt) roads, the optimum condition rating is between 6.5 and 7.0. Based on the foregoing, a blended average condition rating for hard surface roads should be between 6.3 and 6.8. A rating below the above mentioned range is an indication that hard surface roads are underfunded and require increase maintenance. The current (2016) blended average weighted condition rating for all LCB and HCB roads in the Township is 5.07, which represents a noteworthy decrease when compared to 5.69 in 2011. As ratings drop below 5.0, it is likely the Township will receive complaints due to noticeable decrease in level of service; therefore it is recommended that corrective action be taken in order to increase the condition of hard surface roads.

The following bar charts summarize the overall percentage of roads (by length) based on their existing condition, where "Very Poor" represents a condition rating equal or less than 2, "Poor" is a condition rating of 3-4, "Fair" is a condition rating of 5-6, "Good" is a condition rating of 7-8 and "Excellent" is a condition rating greater than 8.

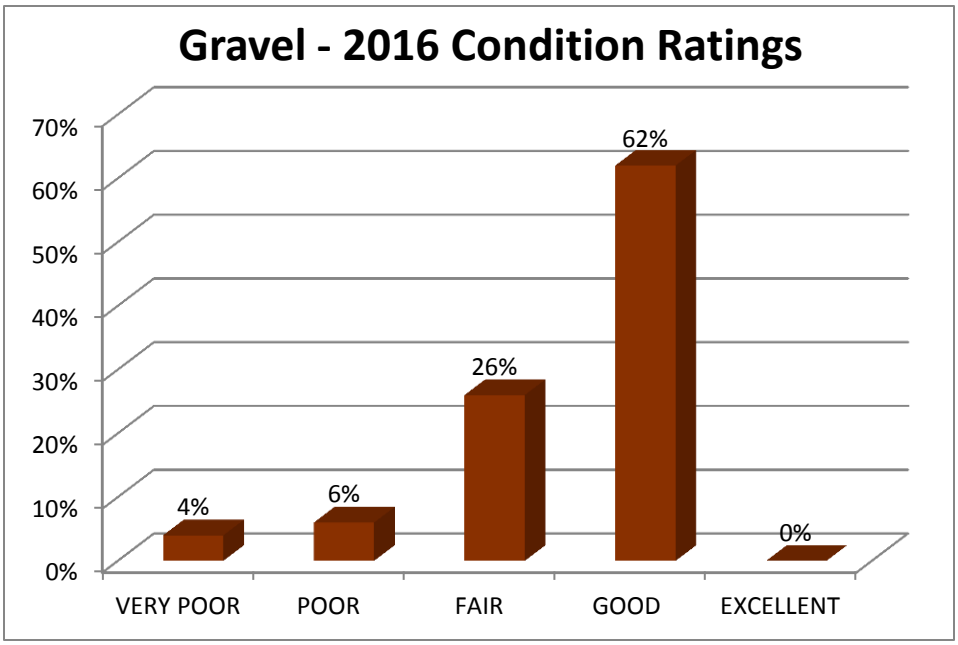
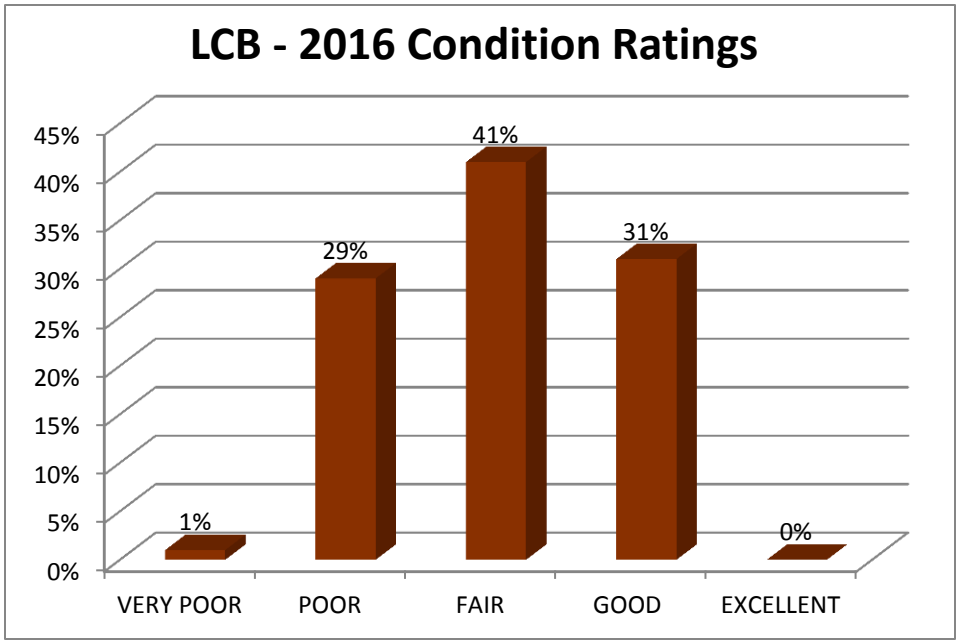


Chart 1 (Left): Gravel Condition Rating. 62% of loose top gravel roads have a condition rating greater than 6. This suggests the Township's gravel roads are generally well maintained.

Chart 2 (Right): LCB Condition Rating. 72% of the Surface Treated roads have a condition rating of 5 or greater. This suggests that the Township's LCB roads are generally maintained.



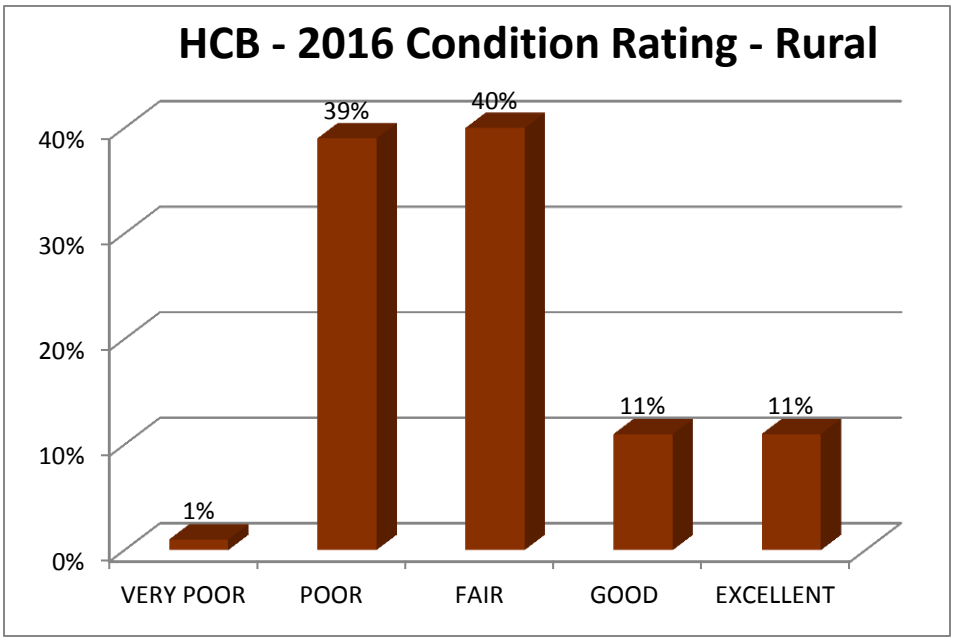


Chart 3 (Left): HCB Condition Rating – Rural Roads. 80% of the Township's Rural Asphalt roads have a condition rating less than the desired optimum condition rating.

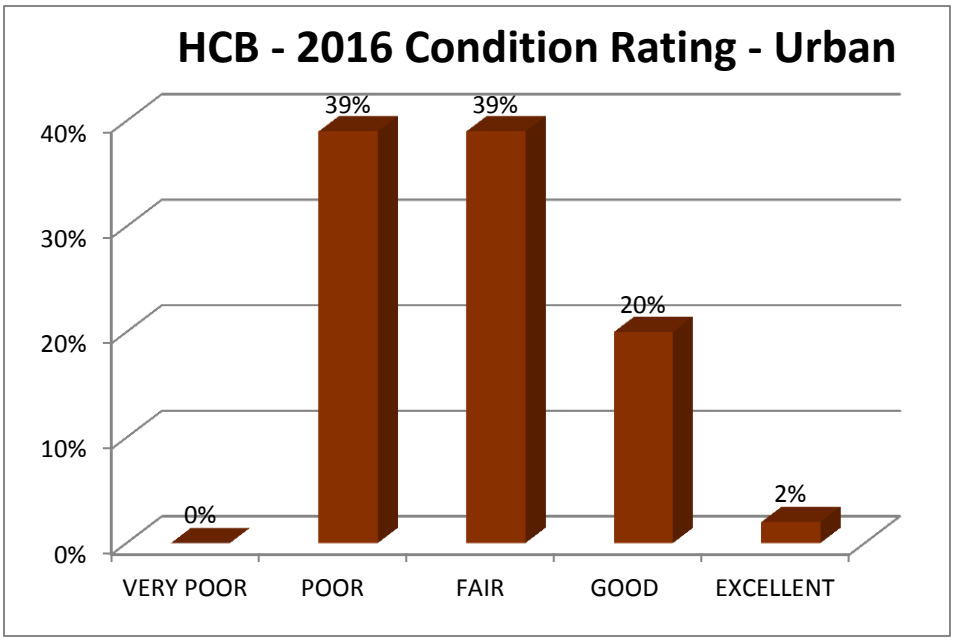


Chart 4 (Right): HCB Condition Rating – Urban Roads. 78% of the Township's Urban Asphalt roads have a condition rating less than the desired optimum condition rating.

A complete assessment of each road segment can be found in **Appendix B**. Similarly, Map 1 provides an overview of the surface type of existing roads while Map 2 provides a visual depiction of "Now Deficient" roads (i.e. roads with a condition rating less than 5).

8.2 Ten Year Capital Plan

The Ten Year Program for hard surface roads is presented in Table 19, and is based on the historical spending levels outlined in Table 16.

A life cycle analysis was used to forecast the year in which resurfacing or reconstruction for Asphalt and Surface Treated roads is most cost effective. The following strategy was developed in an effort to best allocate limited resources:

- Higher traffic roads are given priority over lower traffic volume roads.
- For surface treated roads, roads requiring partial depth reconstruction are given priority over full depth reconstruction as this provides the most cost effective rehabilitation option.
- For asphalt roads, overlay projects are most cost effective, and are therefore given priority over pulverize and pave/partial depth reconstruction. Full-depth reconstruction provides the least return in terms of cost/benefit.
- Pavement preservation techniques (Crack sealing, rejuvenating oil, etc.) are recommended as a cost effective option for maintaining condition ratings of asphalt roads.
- Projects that are geographically close to each other are planned in the same year where feasible.

Please note that roads with higher than average traffic volumes or large volumes of truck traffic may deteriorate at a faster rate, and the Township should be prepared to adjust the program accordingly. The figures are in 2016 dollars, and as such the Municipality should account for inflation each budget year.

In addition to the proposed capital plan, the Municipality plans to address a number of now-deficient low-class bituminous roads with available funding through the Ontario Community Infrastructure Fund (OCIF) program between 2017 and 2019. A list of candidates for rehabilitation through the use of this funding is presented in Table 20.

TABLE 19 - TEN YEAR CAPITAL PROGRAM FOR ROAD RECONSTRUCTION ($1,000s)

No.	STREET NAME	FROM	TO	KM	TYPE OF CONSTRUCTION	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
161	MacMillan Road	Bush Road	County Road 21	2.20	LCB-R2 (2017)	$ 244.20									
306A	St. James Street	Boundary Road, E. Westerly	County Road 34	0.20	HCB-U1 (2017), HCB-U4 (2021), HCB-U6 (2025)	$ 31.40				$ 1.00				$ 2.20	
306B	St. James Street	Bishop Road	Boundary Road	0.20	HCB-U1 (2017), HCB-U4 (2021), HCB-U6 (2025)	$ 31.40				$ 1.00				$ 2.20	
307	Victoria Street, E.	County Road 34, easterly	Bishop Street	0.30	HCB-U1 (2017), HCB-U4 (2021), HCB-U6 (2025)	$ 47.10				$ 1.50				$ 3.30	
308	Victoria Street, E.	Bishop Street, easterly	Boundary Road, East	0.10	HCB-U1 (2017), HCB-U4 (2021), HCB-U6 (2025)	$ 15.70				$ 0.50				$ 1.10	
310	Bishop Street	Lochiel Street, southerly	Victoria Street	0.20	HCB-U1 (2017), HCB-U4 (2021), HCB-U6 (2025)	$ 31.40				$ 1.00				$ 2.20	
311	Bishop Street	Victoria Street, E.	St. James	0.20	HCB-U1 (2017), HCB-U4 (2021), HCB-U6 (2025)	$ 31.40				$ 1.00				$ 2.20	
314	Bishop Street	County Road, Lochiel Street, N.	Peel Street, E.	0.10	HCB-U1 (2017), HCB-U4 (2021), HCB-U6 (2025)	$ 15.70				$ 0.50				$ 1.10	
315	Bishop Street	Peel Street, E.	Center Street	0.50	HCB-U1 (2017), HCB-U4 (2021), HCB-U6 (2025)	$ 78.50				$ 2.50				$ 5.50	
316	Bishop Street	Center Street	Kenyon Street, E.	0.10	HCB-U1 (2017), HCB-U4 (2021), HCB-U6 (2025)	$ 15.70				$ 0.50				$ 1.10	
317	Bishop Street	Kenyon Street, E.	St. George Street, E.	0.10	HCB-U1 (2017), HCB-U4 (2021), HCB-U6 (2025)	$ 15.70				$ 0.50				$ 1.10	
318	Bishop Street	St. George Street, E.	Kincardine Street	0.10	HCB-U1 (2017), HCB-U4 (2021), HCB-U6 (2025)	$ 15.70				$ 0.50				$ 1.10	
319	Bishop Street	Kincardine Street	McDougald Street	0.50	HCB-U4 (2021), HCB-U6 (2025)					$ 2.50				$ 5.50	
001	Concession I	Highway 34	Kenyon Dam Road	2.20	LCB-R1 (2018)		$ 44.00								
001A	Concession I	Kenyon Dam Road	1.4 km westerly	1.40	LCB-R1 (2018)		$ 28.00								
001B	Concession I	1.4 km West of Kenyon Dam Road	2.6 km westerly	1.20	LCB-R2 (2018)		$ 133.20								
002	Concession I	4.9 km West of Highway 34	6.3km westerly	1.40	LCB-R1 (2018)		$ 28.00								
002A	Concession I	6.3km westerly	7.7km westerly	1.30	LCB-R1 (2018)		$ 26.00								
002B	Concession 1	7.7km westerly	9.0km westerly	1.40	LCB-R1 (2018)		$ 28.00								
025	Kenyon, Concession 4	County Road 20, easterly	Valance Road	1.90	LCB-R1 (2018)		$ 38.00								
027	Concession 4, Kenyon	County Road 30, easterly	Dornie Road	4.90	LCB-R1 (2018)		$ 98.00								
039	Concession 6	Highway 34	Westerly 1.8km	1.80	HCB-R2 (2019)			$ 297.00							
039A	Concession 6	1.8km west of Highway 34	Westerly 2.5km	0.70	HCB-R1 (2019), HCB-R4 (2023)			$ 54.60				$ 3.50			
331	McNab Street	Bishop Street, N.	Dead End	0.10	HCB-S1 (2019), HCB-S4 (2023)			$ 10.20				$ 0.50			
332	Elm Street	Bishop Street, N.	Dominion Street	0.10	HCB-U1 (2019), HCB-U4 (2023)			$ 15.70				$ 0.50			
333	Elm Street	Dominion Street	County Road 34	0.10	HCB-U1 (2019), HCB-U4 (2023)			$ 15.70				$ 0.50			
328	Sandfield Avenue	Lochiel Street, County Road 10	St. Paul Street	0.50	HCB-U1 (2020), HCB-U4 (2024)				$ 78.50				$ 2.50		
335	Kincardine Street, E.	Bishop Street	Dominion Street	0.10	HCB-U1 (2020), HCB-U4 (2024)				$ 15.70				$ 0.50		
336	Kincardine Street	Dominion Street	Main Street, County Road 34	0.10	HCB-U2 (2020), HCB-U4 (2024)				$ 39.70				$ 0.50		
337	Kincardine Street	Bishop Street	Sandfield Avenue	0.20	HCB-U1 (2020), HCB-U4 (2024)				$ 31.40				$ 1.00		
360	Kincardine Street, W.	County Road 34	MacDonald Blvd.	0.40	HCB-U1 (2020), HCB-U4 (2024)				$ 62.80				$ 2.00		
370	Sinclair Street	Kenyon Street	Elgin Street	0.10	HCB-U1 (2020), HCB-U4 (2024)				$ 15.70				$ 0.50		
371	Sinclair Street	Elgin Street	Kincardine Street	0.20	HCB-U1 (2020), HCB-U4 (2024)				$ 20.40				$ 1.00		
384	West Boundary Road	Lochiel Street, West	Clement Street	0.20	HCB-U1 (2020), HCB-U4 (2024)				$ 31.40				$ 1.00		
385	West Boundary Road	Clement Street	County Road 45	1.10	HCB-S1 (2020), HCB-S4 (2024)				$ 112.20				$ 5.50		
014	Loch Garry	Kenyon Concession I, northerly	0.7 km North of Concession I	0.70	LCB-R1 (2021)					$ 14.00					
015	Loch Garry	0.7 km North of Kenyon Conc. I	northerly to Conc. II	1.50	LCB-R1 (2021)					$ 30.00					
030A	Dornie Road	1.8km S of Conc 4	Hwy 43	1.90	LCB-R1 (2021)					$ 38.00					
031	Marcoux Road	Highway 43	Kenyon Dam Road	3.20	LCB-R1 (2021)					$ 64.00					
034	Concession 2	Kenyon Dam Road, easterly	County Road 45	0.60	LCB-R2 (2021)					$ 66.60					
379	Lochiel Street	Dead End	West Boundary Road	0.50	HCB-S2 (2021)					$ 117.00					
380	Lochiel Street	West Boundary Road	Park Avenue	0.20	HCB-S1 (2021), HCB-S4 (2025)					$ 20.40				$ 1.00	
381	Lochiel Street	Park Avenue	County Road 34	0.10	HCB-U1 (2021), HCB-U4 (2025)					$ 15.70				$ 0.50	
050	Concession 17	County Road 20, westerly	1.0 km W. of County Road 20	1.00	LCB-R2 (2022)						$ 111.00				
100	Fair Street	Main Street, County Road 20	Robert Street	0.15	HCB-S2 (2022), HCB-S4 (2026)						$ 35.10				$ 0.75
100A	Fair Street	Robert Street	Fairgrounds	0.25	HCB-S2 (2022), HCB-S4 (2026)						$ 58.50				$ 1.25
305	Boundary Road, E.	Front Street	Victoria Street	0.90	HCB-S2 (2023)							$ 210.60			
306	Boundary Road, E.	Victoria Street	Lochiel Street, County Road 10	0.20	HCB-U1 (2023)							$ 31.40			
193	Breadalbane Road, E.	East Hawkesbury Boundary	Westerly 1.7 km	1.70	LCB-R1 (2023)							$ 34.00			
194	Breadalbane Road, E.	1.7 km W.of E. Hawkesbury Rd	County Road 23	1.10	LCB-R2 (2023)							$ 122.10			
028	Concession 5	Highway No. 34, westerly	1.0 km W. of County Road 34	1.00	LCB-R2 (2024)								$ 111.00		
028A	Concession 5	1.0km W of County Rd 34	2.2km West of County Rd 34	1.20	LCB-R1 (2024)								$ 24.00		
047A	Concession 5	0.3km W of County Rd 30	MacDermid Rd	2.00	LCB-R1 (2024)								$ 40.00		
111	Catherine Street, West	Prince Street	Main Street, South	0.25	HCB-S2 (2024)								$ 58.50		
111A	Catherine Street, West	King Street	Prince Street	0.10	HCB-S1 (2024)								$ 10.20		
112	Catherine Street, East	Main Street	Dead End	0.35	HCB-U2 (2024)								$ 138.95		
178	Egg Road	County Road 34	1.5 km easterly of County Rd.34	1.50	HCB-R2 (2025)									$ 247.50	
301	Front Street	Tobin Street	0.1km east of Tobin St	0.10	HCB-S1 (2025)									$ 10.20	
302	Tobin Street	County Road 34	0.3 km S. of County Road 34	0.30	HCB-S2 (2025)									$ 70.20	
303	Front Street	0.3 km S. of County Road 34	SW 0.1 km to County Road 34	0.10	HCB-S2 (2025)									$ 23.40	
394	Front Street, West	County Road 34	West Boundary Road	0.15	HCB-U1 (2025)									$ 23.55	
156	McCormick Road (Golf Course)	Sandfield	0.2 km easterly	0.20	HCB-R1 (2026)										$ 15.60
157	McCormick Road (Golf Course)	0.2 km E. of Sandfield	Power Dam Road	1.50	HCB-R1 (2026)										$ 117.00
157B	McCormick Road (Golf Course)	0.2 km E. of Sandfield	Power Dam Road	1.20	HCB-R1 (2026)										$ 93.60
341	Kenyon Street, E.	Sandfield Avenue	Bishop Street	0.20	HCB-U2 (2026)										$ 79.40
342	Kenyon Street, E.	Bishop Street	County Road 34	0.20	HCB-U2 (2026)										$ 79.40
			TOTAL	50.55		$573.90	$423.20	$ 393.20	$ 407.80	$ 378.70	$ 204.60	$ 403.10	$ 397.15	$ 404.95	$ 387.00

TABLE 20 - REHABILITATION CANDIDATES FOR 2017-2019 OCIF FUNDING ALLOCATION

No.	STREET NAME	FROM	TO	KM
012	Concession II	0.3 km E. of County Road 20	1.8 km E. of County Rd. 20	1.00
016	Loch Garry Road	Concession II, northerly	1.8km W. of Concession II	1.80
027A	Concession 4, Kenyon	Dornie RD	2.4km East	2.50
032	Kenyon Dam Road	Concession Rd 2	Concession 1, Kenyon	1.40
033	Delorme Crescent	Kenyon Dam Road	Kenyon Dam Road	0.40
124	Hope-Ouimet Road, Conc. 3	County Road 21	Gore Road	3.60
			TOTAL	10.70

8.3 Adequacy of Current Spending

Table 20 shows the overall weighted average condition rating by year after applying the proposed capital works presented in Table 19. The decreasing condition rating indicates that the Municipality's roads are underfunded.

TABLE 20 – WEIGHTED AVERAGE CONDITION RATING SUMMARY

CATEGORY	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
GRAVEL	6.27	6.27	6.27	6.27	6.27	6.27	6.27	6.27	6.27	6.27	6.27
LCB	5.03	4.70	4.70	4.29	3.94	4.03	3.97	3.98	4.02	3.88	3.77
HCB	5.10	4.96	4.73	4.68	4.58	4.44	4.27	4.17	4.06	4.06	4.07
OVERALL	**5.76**	**5.66**	**5.61**	**5.51**	**5.42**	**5.40**	**5.36**	**5.34**	**5.32**	**5.29**	**5.27**

On average, it is estimated that approximately $1,088,490 per year for roads would be required in order to maintain the current level of service at its current condition rating, which is above current spending limits provided by the Township. On average, this represents a shortfall of **$691,130** per year for the proposed work in the ten-year plan. This is evidence that the Township's roads are severely underfunded, particularly as the current level of service does not yet meet the preferred level of service (i.e. rating of >6 for LCB, and >6.5 for HCB).

The consequences of underfunding include the steady degradation of assets, resulting in a reduction of associated service levels. The consequences also include escalating repair and maintenance costs, as replacing an asset in a state of failure is much more costly than rehabilitation of minor deficiencies.

It is recommended that the following actions be taken to help reduce the risks associated with underfunding:

1. Adopt the 10-year capital plan for road reconstruction, as presented,
2. Complete additional work listed as more funds become available, and
3. Continue regular monitoring and valuation of roads and their condition.

Implementing the recommended risk mitigation strategies will help to ensure reconstruction and maintenance activities are focused on areas in greatest need of repair. These strategies also ensure opportunities to promote increased levels of service with reduced capital cost are not missed. Additionally, identifying and addressing deficiencies in a timely manner reduces the likelihood of road conditions deteriorating to a point where emergency repairs may be necessary. Furthermore, timely rehabilitation of roads not only reduces risks of overall poor performance of the road network, but improves service levels while reducing long term costs.

APPENDIX A

IDEAL PAVEMENT LIFECYCLE

LCB Roads

Treatments:

LCB-R1 Resurfacing
LCB-R2 Partial Depth Reconstruction
LCB-R3 Full Depth Reconstruction

Optimum Lifecycle

Lifecycle: 55 yr
Average CR: 6.45
Average $$$/year $ 12,745.45

Year	Treatment	CR	$$$/KM
0	LCB-R3	10.00	$ 419,000.00
1		9.53	$ -
2		9.06	$ -
3		8.59	$ -
4		8.12	$ -
5		7.65	$ -
6		7.18	$ -
7		6.71	$ -
8	LCB-R1	8.24	$ 20,000.00
9		7.77	$ -
10		7.30	$ -
11		6.83	$ -
12		6.36	$ -
13		5.89	$ -
14		5.42	$ -
15		4.95	$ -
16		4.48	$ -
17		4.01	$ -
18		3.54	$ -
19	LCB-R2	9.00	$ 111,000.00
20		8.53	$ -
21		8.06	$ -
22		7.59	$ -
23		7.12	$ -
24		6.65	$ -
25	LCB-R1	8.18	$ 20,000.00
26		7.71	$ -
27		7.24	$ -
28		6.77	$ -
29		6.30	$ -
30		5.83	$ -
31		5.36	$ -
32		4.89	$ -
33		4.42	$ -
34		3.95	$ -
35		3.48	$ -
36	LCB-R2	9.00	$ 111,000.00
37		8.53	$ -
38		8.06	$ -
39		7.59	$ -
40		7.12	$ -
41		6.65	$ -
42	LCB-R1	8.18	$ 20,000.00
43		7.71	$ -
44		7.24	$ -
45		6.77	$ -
46		6.30	$ -
47		5.83	$ -
48		5.36	$ -
49		4.89	$ -
50		4.42	$ -
51		3.95	$ -
52		3.48	$ -
53		3.01	$ -
54		2.54	$ -
55		2.07	$ -
		TOTAL	$ 701,000.00
		AVERAGE COST	$ 12,745.45

HCB Rural Roads

Treatments:

HCB-R1 Resurfacing
HCB-R2 Partial Depth Reconstruction
HCB-R3 Full Depth Reconstruction
HCB-R4 Rout and Seal
HCB-R6 Rejuvinating Oil

Optimum Lifecycle

Lifecycle: 100 yr
Average CR: 7.49
Average $$$/year $ 9,010.00

Year	Treatment	CR	$$$/KM
0	HCB-R3	10.00	$ 526,000.00
1		9.77	$ -
2		9.54	$ -
3		9.31	$ -
4		9.08	$ -
5		8.85	$ -
6		8.62	$ -
7		8.39	$ -
8	HCB-R6	8.91	$ 11,000.00
9		8.68	$ -
10		8.45	$ -
11		8.22	$ -
12		7.99	$ -
13		7.76	$ -
14		7.53	$ -
15		7.30	$ -
16		7.07	$ -
17		6.84	$ -
18		6.61	$ -
19		6.38	$ -
20	HCB-R1	9.65	$ 78,000.00
21		9.42	$ -
22		9.19	$ -
23		8.96	$ -
24	HCB-R4	9.48	$ 5,000.00
25		9.25	$ -
26		9.02	$ -
27		8.79	$ -
28	HCB-R6	9.31	$ 11,000.00
29		9.08	$ -
30		8.85	$ -
31		8.62	$ -
32		8.39	$ -
33		8.16	$ -
34		7.93	$ -
35		7.70	$ -
36		7.47	$ -
37		7.24	$ -
38		7.01	$ -
39		6.78	$ -
40		6.55	$ -
41		6.32	$ -
42		6.09	$ -
43		5.86	$ -
44		5.63	$ -
45		5.40	$ -
46		5.17	$ -
47		4.94	$ -
48		4.71	$ -
49		4.48	$ -
50		4.25	$ -
51		4.02	$ -
52	HCB-R2	9.00	$ 165,000.00
53		8.77	$ -
54		8.54	$ -
55		8.31	$ -
56		8.08	$ -
57		7.85	$ -
58		7.62	$ -
59		7.39	$ -
60	HCB-R6	7.91	$ 11,000.00
61		7.68	$ -
62		7.45	$ -
63		7.22	$ -
64		6.99	$ -
65		6.76	$ -
66		6.53	$ -
67		6.30	$ -
68	HCB-R1	9.57	$ 78,000.00
69		9.34	$ -
70		9.11	$ -
71		8.88	$ -
72	HCB-R4	9.40	$ 5,000.00
73		9.17	$ -
74		8.94	$ -
75		8.71	$ -
76	HCB-R6	9.23	$ 11,000.00
77		9.00	$ -
78		8.77	$ -
79		8.54	$ -
80		8.31	$ -
81		8.08	$ -
82		7.85	$ -
83		7.62	$ -
84		7.39	$ -
85		7.16	$ -
86		6.93	$ -
87		6.70	$ -
88		6.47	$ -
89		6.24	$ -
90		6.01	$ -
91		5.78	$ -
92		5.55	$ -
93		5.32	$ -
94		5.09	$ -
95		4.86	$ -
96		4.63	$ -
97		4.40	$ -
98		4.17	$ -
99		3.94	$ -
100		3.71	$ -
		TOTAL	$ 901,000.00
		AVERAGE COST	$ 9,010.00

Reconstruction Only

Lifecycle: 100 yr
Average CR: 6.45
Average $$$/year $ 10,210.00

Year	Treatment	CR	$$$/KM
0	HCB-R3	10.00	$ 526,000.00
1		9.77	$ -
2		9.54	$ -
3		9.31	$ -
4		9.08	$ -
5		8.85	$ -
6		8.62	$ -
7		8.39	$ -
8		8.16	$ -
9		7.93	$ -
10		7.70	$ -
11		7.47	$ -
12		7.24	$ -
13		7.01	$ -
14		6.78	$ -
15		6.55	$ -
16		6.32	$ -
17		6.09	
18		5.86	$ -
19		5.63	$ -
20		5.40	$ -
21		5.17	$ -
22		4.94	$ -
23		4.71	$ -
24		4.48	$ -
25		4.25	$ -
26		4.02	$ -
27	HCB-R2	9.00	$ 165,000.00
28		8.77	$ -
29		8.54	$ -
30		8.31	$ -
31		8.08	$ -
32		7.85	$ -
33		7.62	$ -
34		7.39	$ -
35		7.16	$ -
36		6.93	$ -
37		6.70	$ -
38		6.47	$ -
39		6.24	$ -
40		6.01	$ -
41		5.78	$ -
42		5.55	$ -
43		5.32	$ -
44		5.09	$ -
45		4.86	$ -
46		4.63	$ -
47		4.40	$ -
48		4.17	$ -
49		3.94	$ -
50	HCB-R2	9.00	$ 165,000.00
51		8.77	$ -
52		8.54	$ -
53		8.31	$ -
54		8.08	$ -
55		7.85	$ -
56		7.62	$ -
57		7.39	$ -
58		7.16	$ -
59		6.93	$ -
60		6.70	$ -
61		6.47	$ -
62		6.24	$ -
63		6.01	$ -
64		5.78	$ -
65		5.55	$ -
66		5.32	$ -
67		5.09	$ -
68		4.86	$ -
69		4.63	$ -
70		4.40	$ -
71		4.17	$ -
72		3.94	$ -
73	HCB-R2	9.00	$ 165,000.00
74		8.77	$ -
75		8.54	$ -
76		8.31	$ -
77		8.08	$ -
78		7.85	$ -
79		7.62	$ -
80		7.39	$ -
81		7.16	$ -
82		6.93	$ -
83		6.70	$ -
84		6.47	$ -
85		6.24	$ -
86		6.01	$ -
87		5.78	$ -
88		5.55	$ -
89		5.32	$ -
90		5.09	$ -
91		4.86	$ -
92		4.63	$ -
93		4.40	$ -
94		4.17	$ -
95		3.94	$ -
96		3.71	$ -
97		3.48	$ -
98		3.25	$ -
99		3.02	$ -
100		2.79	$ -
		TOTAL	$ 1,021,000.00
		AVERAGE COST PER YEAR	$ 10,210.00

APPENDIX B

2016 ROAD APPRAISALS

2016 ROAD APPRAISALS - NORTH GLENGARRY

No.	STREET	FROM	TO	Km	ENVIR	TYPE	TRAFFIC RANGE	2016 Rating	Priority
001	**Concession I**	Highway 34	Kenyon Dam Road	2.20	R	LCB	200-399	**8.0**	A
001A	**Concession I**	Kenyon Dam Road	1.0 km westerly	1.40	R	LCB	200-399	**7.0**	A
001B	**Concession I**	1.4 km West of Kenyon Dam Road	2.6 km westerly	1.20	R	LCB	200-399	**5.0**	A
002	**Concession I**	4.9 km West of Highway 34	6.3km westerly	1.40	R	LCB	200-399	**7.0**	A
002A	**Concession I**	6.3km westerly	7.7km westerly	1.30	R	LCB	200-399	**7.0**	A
002B	**Concession 1**	7.7km westerly	9.0km westerly	1.40	R	LCB	200-399	**6.0**	A
002C	**Concession 1**	9.0km westerly	Loch Garry Road	1.40	R	LCB	200-399	**4.0**	A
004A	**Concession 1**	Angel Road	North Stormont Boundary	1.20	R	G	50-199	**7.0**	C
005	**Angel Road**	Concession I, northerly	Highway No. 43	3.50	R	G	50-199	**6.5**	B
006	**Concession 12**	Angel Road	McIntosh Road	1.20	R	G	50-199	**7.0**	C
007	**Kenyon Road**	Angel Road	1.3 East of Angel Road	1.50	R	LCB	50-199	**4.0**	B
007A	**Chapel Road**	Chapel Road	Dead End	0.25	R	G		**6.0**	
007B	**Chapel Road**	Chapel West	Loch Garry Road	0.70	R	G		**7.0**	
008	**Hugh Munro Street**	1.3 km East of Angel Road, E.	Old Ochard (County Road 20)	0.30	S	HCB	50-199	**7.0**	B
009	**Kennedy Avenue**	Hugh Munro Street	CPR R-O-W	0.40	S	HCB	50-199	**4.0**	C
010	**Joseph Street**	Kennedy Avenue, Southerly	County Road 20, old Orchid	0.10	S	HCB	0-49	**5.0**	C
010A	**Lalonde Lane**	County Rd 20	Dead End	0.20	R	G	0-49	**5.0**	D+
011	**Hugh Munro Street**	County Road 20	0.3 km E. of County Rd. 20	0.30	U	HCB	50-199	**3.0**	B
012	**Concession II**	0.3 km E. of County Road 20	1.8 km E. of County Rd. 20	1.00	R	LCB	50-199	**3.0**	B
013	**Concession II**	1.8 km E. of County Road 20,E.	Loch Garry Road	2.20	R	G	50-199	**7.0**	B
014	**Loch Garry Road**	Kenyon Concession I, northerly	0.7 km North of Concession I	0.70	R	LCB	50-199	**6.0**	B
015	**Loch Garry Road**	0.7 km North of Kenyon Conc. I	northerly to Conc. II	1.50	R	LCB	50-199	**7.0**	B
016	**Loch Garry Road**	Concession II, northerly	1.8km W. of Concession II	1.80	R	LCB	50-199	**3.0**	B
016A	**Loch Garry Road**	1.8km W. of Concession II	Highway No. 43	1.10	R	LCB	50-199	**7.0**	B
017	**Masterson Road**	Loch Garry Road,E. to dead end	Third Street (Private Road)	1.50	R	LCB	0-49	**5.0**	C
018	**Concession 3, Kenyon**	Loch Garry Road, Westerly	0.4km Westerly	0.40	R	G	0-49	**7.0**	
019	**Concession 3, Kenyon**	0.4 km W. of Loch Garry	2.2km East of Hwy 43	0.70	R	G	0-49	**5.0**	C
019A	**Concession 3, Kenyon**	2.2km East of Hwy 43	Hwy 43	2.10	R	G	0-49	**5.0**	C
020	**Boy Scout Road**	Concession 3, Kenyon	Dead-End N. of Hwy. 43	0.60	R	G	0-49	**6.0**	C
021	**Diversion Road**	Highway No. 43	Valance Road	1.60	R	G	50-199	**6.0**	B
022	**Kenyon Concession 14,**	Valance Road, westerly	County Road 20	1.80	R	G	50-199	**7.0**	B
023	**Frei Road**	County Road 20, westerly	Dead-End	0.60	R	G	0-49	**6.0**	C
024	**Valance Road**	Kenyon, Concession 4,southerly	Highway No. 43	3.10	R	G	50-199	**7.0**	B
025	**Kenyon, Concession 4**	County Road 20, easterly	Valance Road	1.90	R	LCB	50-199	**5.0**	A
026	**Kenyon, Concession 4**	Valance Road, easterly	County Road 30	5.20	R	G	550-199	**7.0**	B
027	**Concession 4, Kenyon**	County Road 30, easterly	Dornie Road	4.90	R	LCB	50-199	**5.0**	B
027A	**Concession 4, Kenyon**	Dornie RD	2.4km East	2.50	R	LCB	50-199	**3.0**	B
027B	**Concession 4, Kenyon**	2.4km east of Dornie Rd	Hwy 34	2.40	R	HCB	50-199	**9.0**	B
028	**Concession 5**	Highway No. 34, westerly	1.0 km W. of County Road 34	1.00	R	LCB	50-199	**3.0**	B
028A	**Seven Hills (W) Dead End**	Aberdeen Road, westerly	Dead End	1.00	R	G	0-49		
028A	**Concession 5**	1.0km W of County Rd 34	2.2km West of County Rd 34	1.20	R	LCB	50-199	**7.0**	C
028B	**Concession 5**	2.2km West of County Rd 34	Dornie Road	2.60	R	G	50-100	**5.0**	C
029	**Dornie Road**	6th Concession, southerly	Kenyon, Concession 4	2.40	R	G	50-199	**7.0**	C
030	**Dornie Road**	Kenyon , Conc. 4,southerly	1.8km S of Conc 4	1.80	R	G	50-199	**7.0**	B
030A	**Dornie Road**	1.8km S of Conc 4	Hwy 43	1.90	R	LCB	50-199	**7.0**	B
031	**Marcoux Road**	Highway 43	Kenyon Dam Road	3.20	R	LCB	50-199	**8.0**	B
032	**Kenyon Dam Road**	Concession Rd 2	Concession 1, Kenyon	1.40	R	LCB	50-199	**3.0**	A-
032A	**Kenyon Dam Road**	County Rd 45	Concession Rd 2	0.50	R	HCB	50-199	**8.0**	B
033	**Delorme Crescent**	Kenyon Dam Road	Kenyon Dam Road	0.40	R	LCB	0-49	**3.0**	C
034	**Concession 2**	Kenyon Dam Road, easterly	County Road 45	0.60	R	LCB	50-199	**5.0**	B
035	**Lakeshore Road**	Concession I, northerly	Highway No. 43	5.60	R	G	50-199	**6.5**	C
036	**MacMillan Road**	Highway 43, northerly	Concession 4	2.90	R	G	50-199	**7.0**	B
037	**MacMillan Road**	Concession 4	Concession 5, North	1.00	R	G	50-199	**6.0**	C
038	**Little Third**	MacMillan Road, northerly	Dornie Road	2.30	R	G	50-199	**7.0**	B
039	**Concession 6**	Highway 34	Westerly 1.8km	1.80	R	HCB	200-399	**4.0**	A
039A	**Concession 6**	1.8km west of Highway 34	Westerly 2.5km	0.70	R	HCB	200-399	**6.0**	A
039B	**Concession 6**	2.5km west of Highway 34	County Road 30	6.50	R	HCB	200-399	**4.0**	A
040	**Station Street (Greenfield)**	County Road 30	Dead End	0.10	R	HCB	0-49	**2.0**	C
041	**Cameron Street (Greenfield)**	County Road 30, westerly	Dead End	0.30	R	G	0-49	**7.0**	C
042	**Father Ranald**	County Road 30, westerly	Donald Street	0.10	R	HCB	0-49	**3.0**	C
043	**Donald Street**	Father Ranald, southerly	Concession 5	0.10	R	HCB	0-49	**3.0**	C
044	**MacDonnell Side Road**	Concession 4	Concession 5	1.20	R	EARTH	0-49	**4.0**	C
045	**Concession 5**	From 1.7 E. of County Rd. 30	County Road 30	1.70	R	G	0-49	**6.0**	B
046	**Concession 5**	County Road 30, westerly	0.3 km W. of County Road 30	0.30	R	HCB	50-199	**5.0**	B
047	**Concession 5**	MacDermid Rd	County Road 20	4.70	R	G	50-199	**7.0**	B
047A	**Concession 5**	0.3km W of County Rd 30	MacDermid Rd	2.00	R	LCB	50-199	**8.0**	B
048	**Concesssion 16**	County Road 20, westerly	McLeod Road	1.60	R	LCB	50-199	**5.0**	B
049	**McDermid Road**	Concession 5, southerly	Concession 4	0.70	R	G	0-49	**7.0**	B
050	**Concession 17**	County Road 20, westerly	1.0 km W. of County Road 20	1.00	R	LCB	50-199	**5.0**	B
051	**Concession 17**	1.0 km W. of County Rd. 20	North Stormont Boundary	0.80	R	G	50-199	**6.0**	B
052	**Munro Road, northerly**	County Road 22	Concession 8	3.80	R	G	50-199	**6.0**	B
053	**Concession 7**	Munroe Road	County Road 30	2.30	R	G	50-199	**7.0**	B
054	**Concession 7**	County Road 30	McDonnell's Side Road	2.40	R	G	50-199	**6.0**	C
055	**Concession 8**	County Road 30	Bridge Crossing @ Blythe Rd	2.20	R	G	50-199	**7.0**	B
056	**Concession 8**	County Road 20	2.0km E. of Co. Rd. 20	2.00	R	LCB	50-199	**5.0**	B
056A	**Concession 8**	2.0km E. of Co. Rd. 20	Bridge Crossing @ Blythe Rd	2.40	R	LCB	50-199	**5.0**	B
057	**Concession 21**	County Road 20, westerly	Dead-End	1.30	R	G	0-49		C
058	**Athol Road (Kenyon Conc. 20)**	County Road 20	North Stormont Limits	1.70	R	HCB	50-199	**4.0**	B+
059	**Athol Road**	County Road 20, easterly	Dead-End	0.50	R	G	0-49	**6.0**	C

No.	STREET	FROM	TO	Km	ENVIR	TYPE	TRAFFIC RANGE	2016 Rating	Priority
060	Kippen Road, Conc. 18	County Road 20, easterly	Dead-End	0.80	R	G	0-49	7.0	C
061	Kenyon Concession 19	County Road 20, westerly	North Stormont Boundary	1.60	R	G	50-199	7.0	B
062	Blyth Road	8th Concession, northerly	Dunvegan Road Co. Rd. 24	2.20	R	G	50-199	6.0	B
063	McCrae Side Road (Forced Rd.)	Dunvegan Co. Rd. 24,northerly	Stewart's Glen (Conc. 9)	1.60	R	G	0-49	3.0	C
064	McRae Side Road	Stewart's Glen, northerly	Dead End	0.30	R	EARTH	0-49	1.0	
065	Stewart's Glen Concession 21	County Road 20, easterly 1.5 km	Bridge	1.50	R	HCB	50-199	5.0	B+
066	Stewart's Glen Conc. 21	Bridge 1.5 km E. of Cty.Rd.20	County Road 30	5.20	R	G	50-199	7.0	B+
067	Skye Road	County Road 30	Nation Twp. Boundary (Mainville)	2.30	R	G	50-199	6.0	B
068	Murray Street	County Road 30	Pendleton Street	0.20	R	HCB	0-49	3.0	C
069	Pendleton Street	Murray Street, southerly	County Road 30	0.10	R	HCB	0-49	3.0	C
070	Alice Street	County Road 24	Murray Street	0.10	R	HCB	0-49	3.0	C
071	Skye Road	County Road 30, easterly	Easterly 3.2km	3.20	R	LCB	50-199	4.0	B
073	Fisk's Corners Road	Skye Road (Boundary),southerly	County Road 24, Dunvegan Rd.	2.90	R	G	50-199	7.0	B
074	Fisk's Corners Road	County Road 24	Concession 8	2.20	R	G	50-199	7.0	B
075	Fisk's Corners Road	Concession 8, southerly	Dead-End	0.40	R	G	0-49	6.0	C
076	MacMaster Road	Concession 8, southerly	Dead-End	0.50	R	G	0-49	5.0	C
077	MacMaster Road	8th Concession, northerly	County Road 24	2.20	R	G	0-49	6.0	B
078	Concession 8	Highway 34	3.4 km West	3.10	R	HCB	50-199	5.0	B
079	Concession 8	3.4 km W. of Hwy. 34	County Road 30	5.90	R	G	50-199		B
080	MacDonnell Side Road	Concession 8	1.4 km South	1.40	R	EARTH	0-49	2.0	C
081	MacDonnell Side Road	1.4 km S. of Conc. 8	2.2 km S. of Concession 8	0.80	R	G	0-49	4.0	C
082	MacDonnell Side Road	2.2 km S. of Conc. 8	3.9 km S. of Conc. 8	1.70	R	EARTH	0-49	2.0	C
083	MacDonnell Side Road	3.9 km S. of Conc. 8	Concession 6	0.50	R	G	0-49	4.0	C
084	James Street	Main St. (County Road 20)	J.H. Munro Street	0.05	S	HCB	0-49	5.0	C
085	J.H. Munro Street	South End	James Street	0.05	S	G	0-49	5.0	
086	J.H. Munro Street	James Street	Carr Street	0.35	S	HCB	0-49	5.0	C
087	Carr Street	Main St. (County Road 20)	0.45 km E. of Main Street	0.45	S	HCB	0-49	5.0	C
088	Carr Street	0.45 km E. of County Rd. 20	0.9 km E. of County Road 20	0.80	S	HCB	0-49	5.0	C
089	Carr Street	0.9 km E. of Main St., easterly	Dead-End	0.40	S	G	0-49	6.0	C
090	Mechanic Street, E.	Main St. (County Road 20), E.	Marlborough Street	0.03	S	HCB	0-49	6.0	C
091	Mechanic Street	Marlborough Street, easterly	Robert Street	0.07	S	HCB	0-49	5.0	
092	Mechanic Street	Robert Street	Highland Road	0.50	S	HCB	0-49	5.0	C
092A	Mechanic Street	Highland Road	East Dead End	0.10	S	G	0-49	5.0	C
093	Highland Road	Mechanic Street	Maxville Fair Grounds	0.10	S	HCB	0-49	3.0	
094	Robert Street	Mechanic Street, notherly	Fair Street	0.20	S	HCB	0-49	5.0	C
095	Robert Street	Fair Street	Dead End	0.10	S	HCB	0-49	4.0	C
096	Alexander Street	Main Street	Marlborough Street	0.03	S	HCB	0-49	5.0	C
097	Alexander Street	Marlborough Street, easterly	Robert Street	0.07	S	HCB	0-49	6.0	C
098	Marlborough Street	Mechanic Street	Campbell Crescent	0.60	S	HCB	0-49		C
099	Campbell Crescent	Marlborough Street	Cul-de-Sac	0.50	S	HCB	0-49	5.0	C
100	Fair Street	Main Street, County Road 20	Robert Street	0.15	S	HCB	0-49	7.0	B
100A	Fair Street	Robert Street	Fairgrounds	0.25	S	HCB	0-49/200-399	4.0	B
101	Grant Avenue	Main Street, County Road 20	Villeneuve	0.30	S	HCB	0-49	4.0	
101A	Pine Street	Grant Street	Dead End	0.05		G		7.0	
102	Villeneuve	Grant Avenue	Alexander Street	0.30	S	HCB	0-49	4.0	
103	Alexander Street	Dead End	Main Street, County Road 20	0.30	S	HCB	0-49	4.0	
104	John Street	County Road 22 (Mechanic St.)	Alexander Street	0.10	S	HCB	0-49	3.0	C
105	King Street, North	Alexander Street, southerly	County Road 22 (Mechanic St.)	0.10	S	HCB	0-49	3.0	C
106	King Street, South	County Road 22 (Mechanic St.)	Prince Street	0.10	S	HCB	0-49	4.0	C
107	Adelaide Street	King Street, South	Queen Street	0.10	S	HCB	0-49	4.0	C
108	Adelaide Street	Queen Street	Prince Street	0.05	S	G	0-49	4.0	C
109	Queen Street	Mechanic Street, West	Adelaide Street	0.10	S	HCB	0-49	4.0	C
110	Prince Street	Mechanic Street, West	Catherine Street, West	0.50	S	HCB	0-49	8.0	C
111	Catherine Street, West	Prince Street	Main Street, South	0.25	S	HCB	0-49	4.0	B
111A	Catherine Street, West	King Street	Prince Street	0.10	S	HCB	0-49	7.0	B
112	Catherine Street, East	Main Street	Dead End	0.35	U	HCB	0-49	3.0	C
113	Elizabeth Street	Catherine Street	Peter Street	0.10	S	HCB	0-49	4.0	C
114	Peter Street	Elizabeth Street	Main Street	0.20	S	HCB	0-49	7.0	C
115	Peter Street	Elizabeth Street	Dead End	0.10	S	HCB	0-49	5.0	B
116	Joseph Street	Catherine Street	Dead End	0.50	S	EARTH	0-49		
117	Carr Street, West	Catherine Street	Main Street	0.10	S	HCB	0-49	6.0	C
118	Spring Street	Catherine Street	George Street	0.20	S	HCB	0-49	3.0	C
119	Church Street	Spring Street	Main Street	0.10	S	HCB	0-49	4.0	C
120	George Street	Main Street	Dead End	0.15	S	HCB	0-49	3.0	C
121	Power Dam Road	County Road 34, westerly	Dead End	0.30	R	HCB	0-49	8.0	A
122	Power Dam Road	County Road 34	McCormick Road	2.70	R	LCB	200-399	7.0	A
123	McCormick Road	Power Dam Road	1 km easterly	1.00	R	LCB	200-399	7.0	A
123A	McCormick Road	1 km East of Power Dam Road	County Road 23	7.90	R	LCB	200-399	5.0	A
124	Hope-Ouimet Road, Conc. 3	County Road 21	Gore Road	3.60	R	LCB	50-199	3.0	B
125	Gore Road	Hope-Ouimet Road, easterly	1.1km East of Hope-Ouimet Rd	1.10	R	LCB	50-199	5.0	
125A	Gore Road	1.1km east of Hope-Ouimet Rd	East Hawkesbury Boundary	1.10	R	G	50-199	6.0	C
126	Hope-Ouimet Road	Gore Road, southerly	County Road 10	0.80	R	HCB	50-199	4.0	B
127	McIntee Road	County Road 10, southerly	10th Concession,East Boundary	2.40	R	EARTH	0-49	1.0	D
128	10th Concession, East	McIntee Street, westerly	10th Concession, East	0.40	R	EARTH	0-49		
130	London Street	County Road 10, northerly	Dead End	0.10	S	HCB	0-49	4.0	C
131	Essex Street	County Road 10, northerly	Dead-End	0.10	S	G	0-49	5.0	C
132	Fox Lane	County Road 10, northerly	Dead End	0.10	S	HCB	0-49	4.0	C
133	Florence Street	County Road 23, northerly	Dead End	0.40	S	HCB	0-49	3.5	C
134	Emma Lane	Florence Street, easterly	Dead End	0.30	S	LCB	0-49	4.0	C
135	London Street (N. of CNR)	Emma Street, southerly	CNR ROW	0.10	S	G	0-49	5.0	C
136	McCormick Street	County Road 23	Hope-Ouimet Road	3.60	R	G	0-49	2.0	C-

No.	STREET	FROM	TO	Km	ENVIR	TYPE	TRAFFIC RANGE	2016 Rating	Priority
137	**Hope Road**	Hope-Ouimet Road	East Hawkesbury Border	1.70	R	G	0-49	**3.0**	C-
138	**Rigaud Street**	County Road 10, northerly	Sauvé Street	0.20	S	HCB	0-49	**4.0**	C
139	**Sauvé Street**	Rigaud Street	County Road 23	0.40	S	HCB	0-49	**4.0**	C
140	**Dashney Street**	County Road 23	Chisholm Street	0.10	S	HCB	0-49	**4.0**	C
141	**Chisholm Street**	County Road 10, northerly	Dead End	0.40	S	HCB	0-49	**3.0**	C
142	**Hope Lane**	County Road 10, northerly	Dead End	0.10	R	HCB	0-49	**2.0**	C
143	**Clara Street**	County Road 10, northerly	Seguin Mill Street	0.10	S	HCB	0-49	**3.0**	C
144	**Seguin Mill Street**	Clara Street	Irvin Street	0.20	S	HCB	0-49	**3.0**	C
145	**Irwin St**	County Road 10	Water Treatment Plant	0.10	S	HCB	0-49	**3.0**	C
145A	**Annie St**	County Road 10	Sequin Mill Street	0.10	S	HCB	0-49	**4.0**	C
146A	**Concession 10**	Bureau Road	Larocque Road	3.10		G		**6.0**	B
147	**Larocque Road**	Concession 10	County Road 10	2.30	R	G	50-199	**7.0**	B
148	**Little Russia Road**	Larocque Road	10th Concession	3.60	R	G	50-199	**6.0**	B
149	**10th Concession, West**	0.2km west of Bureau Road	Dead-End	1.00	R	EARTH	0-49	**1.0**	C-
150	**Bureau Road**	10th Concession	County Road 10	2.20	R	G	50-199	**7.0**	B
151	**Rolland Massie Road, South**	County Road 10, northerly	McCormick Road	2.30	R	G	50-199	**7.0**	C
152	**Massiedale Road**	McCormick Road	County Road 10	2.30	R	G	50-199	**7.0**	B
153	**River Road**	County Road 10, southerly	1.1 km	1.10	R	G	50-199	**6.0**	C
154	**River Road**	1.1 km S. of County Road 10	3.2 km S. of County Road 10	2.10	R	LCB	0-49	**4.0**	C
155	**River Road**	3.2 km S. of County Road 10	Front Street (Alexandria)	0.20	S	HCB	50-199	**4.0**	C
156	**McCormick Road (Golf Course)**	Sandfield	0.2 km easterly	0.20	U	HCB	50-199	**6.0**	B
157	**McCormick Road (Golf Course)**	0.2 km E. of Sandfield	Power Dam Road	1.50	R	HCB	50-199	**8.0**	B
157A	**Power Dam Road**	0.2 km E. of Sandfield	Power Dam Road	0.50	R	LCB	50-199	**2.0**	B
157B	**McCormick Road (Golf Course)**	0.2 km E. of Sandfield	Power Dam Road	1.20	R	HCB	50-199	**6.0**	B
158	**McDonnell Road**	McCormick Road, easterly	Dead End	0.80	R	G	50-199	**7.0**	
159	**MacPhee Road**	McCormick Road	County Road 10	1.70	R	EARTH	0-49	**4.0**	D
160	**Ouellette Road**	McCormick Road	Bush Road	2.20	R	HCB	50-199	**9.0**	B
161	**MacMillan Road**	Bush Road	County Road 21	2.20	R	LCB	50-199	**5.0**	B
162	**Bush Road**	MacMillan Road	Rolland Massie, North	2.80	R	G	50-199	**6.0**	C
163	**Rolland Massie Road, North**	Bush Road	McCormick Road	2.20	R	G	50-199	**7.0**	C
164	**Lorne School Road**	Bush Road	County Road 21	1.10	R	G	50-199	**7.0**	C
165	**Wylie Road**	County Road 21	McCormick Road	3.30	R	G	50-199	**6.0**	C
166	**Menard Road**	Wylie Road	County Road 23	2.30	R	G	50-199	**6.0**	C
167	**Haydon Road**	County Road 21	Glen Sandfield Road	1.00	R	G	50-199	**7.0**	C
168	**Glen Sandfield Road**	County Road 23	0.1 km easterly	0.10	R	HCB	50-199	**4.0**	C
169	**Glen Sandfield Road**	0.1 km E. of County Road 23	MacDonald Road	3.30	R	G	50-199	**7.0**	C
170	**MacDonald Road**	Glen Sandfield Road	Dead End	1.00	R	G	50-199	**7.0**	C
171	**MacDonald Road**	Brodie Road	0.3 km, southerly	0.30	R	G	50-199	**7.0**	C
172	**Brodie Road**	MacDonald (Petite Quatorze),W.	County Road 23	3.40	R	G	50-199	**7.0**	C
173	**Brodie Road, West**	County Road 23	2.3 km westerly	2.30	R	G	50-199	**7.0**	
174	**Brodie Road**	2.3 km W. of County Road 23,W	Lorne School Road	2.50	R	HCB	50-199	**7.0**	B
175	**Lorne School Road**	Brodie Road, West	County Road 21	1.00	R	HCB	50-199	**6.0**	B
176	**Hugh Kennedy Road, N.**	County Road 21	Dead End	1.30	R	G	0-49	**3.0**	C
177	**Lapensee Lane**	County Road 34	Dead End	0.30	R	G	0-49	**7.0**	C
178	**Eigg Road**	County Road 34	1.5 km easterly of County Rd.34	1.50	R	HCB	50-199	**5.0**	B
179	**Eigg Road**	1.5 km E. of County Road 34	Cuthbert Road	1.30	R	G	50-199	**7.0**	C
180	**Cuthbert Road**	Eigg Road	McCormick Road	1.50	R	G	50-199	**7.0**	C
181	**Hugh Kennedy Road**	Eigg Road	County Road 21	2.90	R	G	50-199	**7.0**	C
182	**Latulippe**	Brodie Road, southerly	County Road 21	2.20	R	G	0-49	**2.0**	C
183	**Nixon Side Road**	Brodie Road	Mack's Corners Road	1.10	R	G	50-199	**7.0**	C
184	**Blind Nixon**	Nixon Side Road, westerly	Dead End	0.70	R	G	0-49	**2.0**	D
185	**Lewis Fraser**	Mack's Corner's Road, easterly	Dead End	0.30	R	G	0-49	**6.0**	C
186	**Mack's Corners, South**	Nixon Side Road	County Road 24	2.40	R	G	50-199	**7.0**	C
187	**Blind Road**	County Road 23	Dead End	1.20	R	G	0-49	**1.5**	D
188	**Binette Road**	County Road 24	East Hawkesbury Border	2.70	R	G	0-49	**7.0**	C
189	**Ranger Bridge Road**	County Road 24	Dead End	0.40	R	G	0-49	**5.0**	C
190	**Hampson Road**	County Road 23	Dead End	0.90	R	G	0-49	**6.0**	C
191	**Irvine Road**	County Road 23	East Hawkesbury Boundary	3.00	R	G	50-199	**7.0**	C
192	**Sabourin Road**	Breadalbane Road, E.	Dead End	1.70	R	G	0-49	**7.0**	C
193	**Breadalbane Road, E.**	East Hawkesbury Boundary	Westerly 1.7 km	1.70	R	LCB	50-199	**8.0**	B
194	**Breadalbane Road, E.**	1.7 km W.of E. Hawkesbury Rd	County Road 23	1.10	R	LCB	50-199	**4.0**	B
195	**Breadalbane Road, W.**	County Road 23, westerly	Cadieux Road	2.30	R	G	50-199	**7.0**	B
196	**Breadalbane Road, W.**	Cadieux Road, westerly	0.7 km W. of Cadieux Road	0.70	R	G	0-49	**6.0**	C
197	**Breadalbane Road, W.**	0.7 km W. of Cadieux Road	westerly 0.5 km	0.50	R	EARTH	0-49	**2.0**	D
198	**Aberdeen Road**	Lochinvar Road, northerly	2.0 km N. of Lochinvar (417 EB)	1.90	R	G	50-199	**7.0**	B
199	**Aberdeen Road**	2.0 km N. of Lochinvar	W. Hawkesbury Boundary	0.20	R	LCB	50-199	**4.0**	B
200	**Seven Hills W.**	Aberdeen Road		2.40	R	G	50-199	**6.0**	C
201	**Seven Hills Road, E.**	Aberdeen Road	County Road 23	2.30	R	G	50-199	**7.0**	C
202	**Cailloux**	County Road 23	Dead End	0.40	R	G	0-49	**6.0**	C
203	**McNaughton Road**	County Road 23, easterly	Dead End (Green Road starts)	1.80	R	G	0-49	**7.0**	C
204	**McNaughton Road**	1.9 km E. of County Road 23,E.	Dead End	0.60	R	EARTH	0-49	**1.0**	E
205	**Lochinvar Road**	Aberdeen Road, westerly	4.0 km to paved portion	3.90	R	G	50-199	**7.0**	B
206	**Tannery Road**	County Road 34	200m SE of Co Rd 34 (Herbs')	0.20	R	HCB	400-999	**9.0**	A
206A	**Tannery Road**	200m SE of Co Rd 34 (Herbs')	Lochinvar Road	1.80	R	HCB	50-199	**6.0**	B
207	**Nixon Boundary Road**	County Road 34	0.3 km W. of County Road 34	0.30	R	HCB	50-199	**3.0**	B
208	**Nixon Boundary Road**	0.3 km W. of County Road 34	West Hawkesbury Boundary	1.10	R	G	50-199	**7.0**	B
209	**Nixon Boundary Road**	1.4 km W. of County Road 34	westerly ± 0.6 km	0.60	R	EARTH	0-49	**1.0**	C
210	**Service Road**	Tannery Road, easterly	Entrance to Service Centre	0.30	R	HCB	0-49	**5.0**	C
211	**Service Road**	end of PUMT easterly	1.4 km,easterly (D'Aoust Sd Rd)	1.40	R	G	0-49	**7.0**	C
212	**Service Road**	D'Aoust Side Road	Dead End	0.60	R	G	0-49	**6.0**	C
213	**D'Aoust Side Road**	Service Road	Lochinvar Road	2.30	R	G	50-199	**7.0**	C

No.	STREET	FROM	TO	Km	ENVIR	TYPE	TRAFFIC RANGE	2016 Rating	Priority
214	**Cadieux Road**	Lochinvar Road	Mack's Corners Road, North	2.10	R	G	50-199	**7.0**	C
215	**Mack's Corners Road, N.**	Cadieux Road	County Road 24	2.20	R	G	50-199	**7.0**	C
216	**Bruce's Creek**	Mack's Corner's Road, N.	Creek Road	2.20	R	G	0-49	**3.0**	C
217	**Creek Road**	Green Road, westerly	Military Road	3.10	R	G	0-49	**7.0**	B
218	**Seventeenth Road**	Military Road, easterly	Dead End	1.70	R	G	0-49	**6.0**	C
219	**Lochinvar Road (paved)**	4.0 km W. of Aberdeen Road,W.	County Road 34	2.40	R	HCB	50-199	**3.0**	B
220	**Fraser Road**	County Road 34, southerly	3.3 km	3.30	R	G	0-49	**2.5**	C
221	**Blind Road**	Fraser Road	westerly - Dead End	0.50	R	G	0-49	**1.0**	
222	**Fraser Road**	3.3 km S. of County Road 34,S.	County Road 24	1.00	R	G	0-49	**6.0**	C
223	**E. End of Eigg Road**	E. End of Eigg, easterly	Dead End	0.40	R	EARTH	0-49	**2.0**	D
224	**Marks-Kennedym**	Kennedy Road, easterly	Dead End	0.50	R	EARTH	0-49	**1.5**	D
225	**Blind Road**	Military Road, easterly	Dead End	1.20	R	EARTH	0-49	**1.5**	D
226	**Crooked Road**	Military Road, easterly	McCuaig Road	2.80	R	G	50-199	**7.0**	B
227	**McCuaig Road**	Crooked / McCuaig Int'n, S.	Dead End	0.90	R	EARTH	0-49	**1.5**	D
228	**McCuaig Road**	Crooked Road, northerly	County Road 24	0.60	R	G	50-199	**7.0**	B
229	**MacLeod Road**	County Road 24, northerly	Creek Road	1.00	R	G	50-199	**7.0**	B
230	**Dunvegan Road, East**	County Road 34	Dead End	0.30	R	G	0-49	**5.0**	C
231	**McCrimmon Drive**	County Road 31	Dead End	0.20	R	HCB	0-49	**3.0**	C
233	**Old Military Road**	Lochinvar Road	2km South of County Road 24	6.40	R	HCB	50-199	**5.0**	A
233A	**Old Military Road**	2km South of County Road 24	County Road 21	2.50	R	HCB	50-199	**3.0**	A
300	**MacLeod Crescent**	River Road	Boundary Road, East	0.30	S	HCB	0-49	**5.0**	C
301	**Front Street**	Tobin Street	0.1km east of Tobin St	0.10	S	HCB	0-49	**7.0**	B
301A	**Front Street**	0.1km east of Tobin St	Boundary Road, East	0.30	S	HCB	0-49	**3.0**	B
302	**Tobin Street**	County Road 34	0.3 km S. of County Road 34	0.30	U	HCB	50-199	**5.0**	B
303	**Front Street**	0.3 km S. of County Road 34	SW 0.1 km to County Road 34	0.10	S	HCB	50-199	**6.0**	B
304	**William Street**	Tobin Street@County Road 34,E	Boundary Road, East	0.40	S	HCB	0-49	**3.0**	B
305	**Boundary Road, E.**	Front Street	Victoria Street	0.90	S	HCB	50-199	**3.0**	B
306	**Boundary Road, E.**	Victoria Street	Lochiel Street, County Road 10	0.20	U	HCB	0-49	**7.0**	B
306A	**St. James Street**	Boundary Road, E. Westerly	County Road 34	0.20	U	HCB	0-49	**5.0**	B
306B	**St. James Street**	Bishop Road	Boundary Road	0.20	U	HCB	0-49	**6.0**	B
307	**Victoria Street, E.**	County Road 34, easterly	Bishop Street	0.30	U	HCB	0-49	**6.0**	B
308	**Victoria Street, E.**	Bishop Street, easterly	Boundary Road, East	0.10	U	HCB	0-49	**6.0**	B
309	**Viau Street**	Boundary Road, East	Dead End (school bus depot)	0.10	S	HCB	0-49	**5.0**	B
310	**Bishop Street**	Lochiel Street, southerly	Victoria Street	0.20	U	HCB	0-49	**6.0**	
311	**Bishop Street**	Victoria Street, E.	St. James	0.20	U	HCB	0-49	**7.0**	B
312	**Dominion Street, South**	St. James, southerly	William Street	0.50	U	HCB	0-49	**3.0**	B
313	**Albert Street**	County Road 34	Dominion Street, South	0.10	U	HCB	0-49	**3.0**	B
314	**Bishop Street**	County Road, Lochiel Street, N.	Peel Street, E.	0.10	U	HCB	50-199	**5.0**	A
315	**Bishop Street**	Peel Street, E.	Center Street	0.50	U	HCB	50-199	**4.0**	A
316	**Bishop Street**	Center Street	Kenyon Street, E.	0.10	U	HCB	50-199	**6.0**	A
317	**Bishop Street**	Kenyon Street, E.	St. George Street, E.	0.10	U	HCB	50-199	**6.0**	A
318	**Bishop Street**	St. George Street, E.	Kincardine Street	0.10	U	HCB	50-199	**6.0**	A
319	**Bishop Street**	Kincardine Street	McDougald Street	0.50	U	HCB	50-199	**7.0**	A
320	**McDougald Street**	Bishop Street	County Road 34	0.20	U	HCB	0-49	**6.0**	A
321	**Dominion Street, North**	McDougald Street, E.	Elm Street	0.10	U	HCB	0-49	**6.0**	B
322	**Dominion Street, South**	Elm Street	Maple Street	0.10	U	HCB	0-49	**6.0**	B
323	**Dominion Street**	Maple Street	0.1km south	0.10	S	HCB	0-49	**3.0**	B
323A	**Dominion Steet**	0.1km South	Kincardine Street	0.10	S	HCB	0-49	**8.0**	B
324	**Dominion Street**	Kincardine Street	Kenyon Street, E.	0.20	U	HCB	0-49	**5.0**	B
325	**Dominion Street**	Keyon Street E.	Center Street	0.10	U	HCB	0-49	**5.0**	B
326	**Dominion Street**	Center Street	St. Paul Street	0.10	U	HCB	0-49	**5.0**	B
327	**Dominion Street**	St. Paul Street	Lochiel Street, County Road 10	0.50	U	HCB	0-49	**4.0**	B
328	**Sandfield Avenue**	Lochiel Street, County Road 10	St. Paul Street	0.50	U	HCB	50-199	**7.0**	A
329	**Sandfield Avenue**	St. Paul Street	Dead End	0.20	S	HCB	0-49	**9.0**	B
330	**Sandfield Avenue**	Kenyon Street, E.	Kincardine Street	0.30	U	HCB	0-49	**6.0**	B
331	**McNab Street**	Bishop Street, N.	Dead End	0.10	S	HCB	0-49	**5.0**	A
332	**Elm Street**	Bishop Street, N.	Dominion Street	0.10	U	HCB	0-49	**6.0**	B
333	**Elm Street**	Dominion Street	County Road 34	0.10	U	HCB	0-49	**6.0**	B
334	**Maple Street**	County Road 34	Bishop Street	0.20	S	HCB	0-49	**8.0**	B
335	**Kincardine Street, E.**	Bishop Street	Dominion Street	0.10	U	HCB	0-49	**6.0**	B
336	**Kincardine Street**	Dominion Street	Main Street, County Road 34	0.10	U	HCB	0-49	**4.0**	B
337	**Kincardine Street**	Bishop Street	Sandfield Avenue	0.20	U	HCB	0-49	**6.0**	B
337A	**Kincardine St**	Sandfiled Avenue	Dead End	0.10	U	HCB	0-49	**8.0**	C
338	**St. George Street, E.**	Dead End	Bishop Street	0.40	U	HCB	0-49	**7.0**	B
339	**St. George Street, E.**	Bishop Street	County Road 34	0.20	U	HCB	0-49	**4.0**	B
340	**Elgin Street, E.**	County Road 34	Bishop Street	0.20	U	HCB	0-49	**4.0**	B
341	**Kenyon Street, E.**	Sandfield Avenue	Bishop Street	0.20	U	HCB	0-49	**5.0**	B
342	**Kenyon Street, E.**	Bishop Street	County Road 34	0.20	U	HCB	0-49	**4.0**	B
343	**Center Street**	County Road 34	0.1 East of Bishop Street	0.30	U	HCB	50-199	**4.0**	A
344	**Center Street**	Bishop Street	Sandfield Avenue	0.10	U	HCB	0-49	**8.0**	B
345	**Gernish Street, E.**	Bishop Street	Dominion Street	0.10	U	HCB	0-49	**4.0**	B
346	**Gernish Street, E.**	Dominion Street	County Road 34	0.10	U	HCB	0-49	**6.0**	B
347	**St. Paul Street**	County Road 34	Sandfield Avenue	0.40	U	HCB	50-199	**4.0**	B
348	**Conroy Crescent**	Sandfield Avenue	Sandfield Avenue	0.10	S	HCB	0-49	**5.0**	C
349	**Cul de Sac**	Off Sandfield Avenue, N.	Sandfield Avenue	0.05	U	HCB	0-49	**6.0**	C
349A	**Ethier Street**	Sandfield Avenue	St. George Street, E.	0.30	U	HCB	0-49	**6.0**	C
350	**Derby Street, E.**	County Road 34	Dominion Street	0.10	U	HCB	0-49	**5.0**	B
351	**Derby Street**	Dominion Street, South	Bishop Street	0.10	U	HCB	0-49	**5.0**	B
352	**Peel Street**	Bishop Street	Sandfield Avenue	0.20	U	HCB	0-49	**5.0**	B
353	**Peel Street**	Bishop Street	County Road 34	0.20	U	HCB	0-49	**6.0**	B
354	**Linsley Street, E.**	County Road 34	Dead End	0.50	S	HCB	0-49	**3.0**	B

No.	STREET	FROM	TO	Km	ENVIR	TYPE	TRAFFIC RANGE	2016 Rating	Priority
355	**Linsley Street, W.**	County Road 34	Dead End	0.20	U	HCB	0-49	**6.0**	C
356	**MacDonald Blvd.**	MacDougald Street, W.	Dead End	0.30	S	HCB	0-49	**6.0**	B
357	**Leroux Street**	MacDonald Blvd.	Industrial Blvd.	0.20	R	HCB	0-49	**6.0**	B
358	**Industrial Blvd.**	Leroux Street	Touchette Street	0.70	R	HCB	0-49	**4.0**	B
359	**Touchette Street**	Industrial Blvd.	MacDonald Blvd.	0.20	R	HCB	0-49	**4.0**	B
360	**Kincardine Street, W.**	County Road 34	MacDonald Blvd.	0.40	U	HCB	50-199	**6.0**	A
361	**Hope Street**	Kincardine Street	McDougald Street	0.20	U	HCB	0-49	**6.0**	B
361A	**Hope Street**	Ronald Street	Kincardine Street	0.30	U	HCB	0-49	**4.0**	B
362	**Trottier Crescent**	McDougald Street	Hope Street	0.20	U	HCB	0-49	**6.0**	C
363	**Ronald Street**	Hope Street	MacDonald Blvd.	0.10	U	HCB	0-49	**4.0**	B
364	**St. George Street, W.**	MacDonald Blvd.	Dead End	0.20	R	HCB	0-49	**5.0**	B
365	**St. George Street**	MacDonald Blvd.	County Road 34	0.40	U	HCB	0-49	**5.0**	B
366A	**Elgin Street, W.**	MacDonald Blvd.	Sinclair Street	0.30	U	HCB	0-49	**10.0**	B
366B	**Elgin Street, W.**	Sinclair Street	County Road 34	0.10	U	HCB	0-49	**10.0**	B
367	**Elgin Street, W.**	MacDonald Blvd.	Dead End	0.10	U	HCB	0-49	**4.0**	C
368	**Margaret Street**	Elgin Street	St. George Street	0.10	S	HCB	0-49	**4.0**	C
369	**Harrison Street**	Kincardine Street	Kenyon Street	0.20	U	HCB	0-49	**6.0**	B
370	**Sinclair Street**	Kenyon Street	Elgin Street	0.10	U	HCB	0-49	**7.0**	
371	**Sinclair Street**	Elgin Street	Kincardine Street	0.20	S	HCB	0-49	**7.0**	B
372	**Harrison Street**	County Road 43	Dead End (Cul de Sac)	0.20	U	HCB	0-49	**6.0**	C
373	**Catherine-Fraser**	Dead End @ Mill Pond	Ottawa Street	0.20	U	HCB	0-49	**5.0**	B
374	**Mill Square**	County Road 34	Ottawa Street	0.06	U	HCB	50-199	**6.0**	B
375	**Ottawa Street**	Mill Square	County Road 43	0.10	U	HCB	0-49	**6.0**	B
376	**Gernish Street, W.**	County Road 34	Park Avenue @ Mill Pond	0.10	U	HCB	0-49	**5.0**	B
377	**Park Avenue**	Dead End, southerly	Derby Street	0.10	S	LCB	0-49	**6.0**	B
378	**Park Avenue**	Derby Street	Lochiel Street	0.30	S	HCB	0-49	**5.0**	B
379	**Lochiel Street**	Dead End	West Boundary Road	0.50	S	HCB	0-49	**4.0**	C
380	**Lochiel Street**	West Boundary Road	Park Avenue	0.20	S	HCB	0-49	**6.0**	B
381	**Lochiel Street**	Park Avenue	County Road 34	0.10	U	HCB	0-49	**7.0**	
382	**Derby Street, W.**	County Road 34	Park Avenue	0.10	U	HCB	0-49	**8.0**	B
383	**Peel Street**	Park Avenue	County Road 34	0.10	U	HCB	0-49	**5.0**	B
384	**West Boundary Road**	Lochiel Street, West	Clement Street	0.20	U	HCB	50-199	**7.0**	A
385	**West Boundary Road**	Clement Street	County Road 45	1.10	S	HCB	50-199	**7.0**	A
386	**Jean Street**	West Boundary Road	Dead End (Cul de Sac)	0.20	U	HCB	0-49	**4.0**	C
387	**Victoria Street, West**	West Boundary Road	County Road 34	0.20	U	HCB	0-49	**5.0**	B
388	**Clement Street**	Victoria Street, West	Boundary Road, West	0.30	U	HCB	0-49	**7.0**	B
389	**Gauthier Street**	West Boundary Road	County Road 34	0.30	U	HCB	0-49	**7.0**	B
390	**Tonia Street**	West Boundary Road	Dead End @ cul de sac	0.20	U	HCB	0-49	**6.0**	C
391	**Anik Street**	West Boundary Road	County Road 34	0.30	U	HCB	50-199	**5.0**	B
392	**Jacques Street**	County Road 34	Massie Crescent	0.20	S	HCB	0-49	**6.0**	B
393	**Massie Crescent**	West Boundary Road	West Boundary Road	0.40	S	HCB	0-49	**7.0**	C
394	**Front Street, West**	County Road 34	West Boundary Road	0.15	U	HCB	50-199	**8.0**	B

APPENDIX C

TEN-YEAR CAPITAL PLAN

PROPOSED 2016 TEN YEAR PLAN (LCB)

Condition Rating Adjusted to account for 2016 Capital Works

Condition Rating Adjusted to account for 2017 - 2026 Capital Works

Candidtates for OCIF Funding Works

FORECAST CONDITION RATINGS BY YEAR - LOW CLASS BITUMINOUS SURFACE

No.	STREET	FROM	TO	Km	Current 2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
001	Concession I	Highway 34	Kenyon Dam Road	2.20	8.00	7.53	9.06	8.59	8.12	7.89	7.66	7.43	7.20	6.97	6.74
001A	Concession I	Kenyon Dam Road	1.0 km westerly	1.40	7.00	6.53	8.06	7.59	7.12	6.89	6.66	6.43	6.20	5.97	5.74
001B	Concession I	1.4 km West of Kenyon Dam Road	2.6 km westerly	1.20	5.00	4.53	9.00	8.53	8.06	7.83	7.60	7.37	7.14	6.91	6.68
002	Concession I	4.9 km West of Highway 34	6.3km westerly	1.40	7.00	6.53	8.06	7.59	7.12	6.89	6.66	6.43	6.20	5.97	5.74
002A	Concession I	6.3km westerly	7.7km westerly	1.30	7.00	6.53	8.06	7.59	7.12	6.89	6.66	6.43	6.20	5.97	5.74
002B	Concession 1	7.7km westerly	9.0km westerly	1.40	6.00	5.53	7.06	6.59	6.12	5.89	5.66	5.43	5.20	4.97	4.74
002C	Concession 1	9.0km westerly	Loch Garry Road	1.40	4.00	3.53	3.06	2.59	2.12	2.00	2.00	2.00	2.00	2.00	2.00
007	Kenyon Road	Angel Road	1.3 East of Angel Road	1.50	4.00	3.53	3.06	2.59	2.12	2.00	2.00	2.00	2.00	2.00	2.00
012	Concession II	0.3 km E. of County Road 20	1.8 km E. of County Rd. 20	1.00	3.00	2.53	2.06	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
014	Loch Garry Road	Kenyon Concession I, northerly	0.7 km North of Concession I	0.70	6.00	5.53	5.06	4.59	4.12	5.89	5.66	5.43	5.20	4.97	4.74
015	Loch Garry Road	0.7 km North of Kenyon Conc. I	northerly to Conc. II	1.50	7.00	6.53	6.06	5.59	5.12	6.89	6.66	6.43	6.20	5.97	5.74
016	Loch Garry Road	Concession II, northerly	1.8km W. of Concession II	1.80	3.00	2.53	2.06	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
016A	Loch Garry Road	1.8km W. of Concession II	Highway No. 43	1.10	7.00	6.53	6.06	5.59	5.12	4.89	4.66	4.43	4.20	3.97	3.74
017	Masterson Road	Loch Garry Road,E. to dead end	Third Street (Private Road)	1.50	5.00	4.53	4.06	3.59	3.12	2.89	2.66	2.43	2.20	2.00	2.00
025	Kenyon, Concession 4	County Road 20, easterly	Valance Road	1.90	5.00	4.53	6.06	5.59	5.12	4.89	4.66	4.43	4.20	3.97	3.74
027	Concession 4, Kenyon	County Road 30, easterly	Dornie Road	4.90	5.00	4.53	6.06	5.59	5.12	4.89	4.66	4.43	4.20	3.97	3.74
027A	Concession 4, Kenyon	Dornie RD	2.4km East	2.50	3.00	2.53	2.06	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
028	Concession 5	Highway No. 34, westerly	1.0 km W. of County Road 34	1.00	3.00	2.53	2.06	2.00	2.00	2.00	2.00	2.00	9.00	8.77	8.54
028A	Concession 5	1.0km W of County Rd 34	2.2km West of County Rd 34	1.20	7.00	6.53	6.06	5.59	5.12	4.89	4.66	4.43	6.20	5.97	5.74
030A	Dornie Road	1.8km S of Conc 4	Hwy 43	1.90	7.00	6.53	6.06	5.59	5.12	6.89	6.66	6.43	6.20	5.97	5.74
031	Marcoux Road	Highway 43	Kenyon Dam Road	3.20	8.00	7.53	7.06	6.59	6.12	7.89	7.66	7.43	7.20	6.97	6.74
032	Kenyon Dam Road	Concession Rd 2	Concession 1, Kenyon	1.40	3.00	2.53	2.06	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
033	Delorme Crescent	Kenyon Dam Road	Kenyon Dam Road	0.40	3.00	2.53	2.06	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
034	Concession 2	Kenyon Dam Road, easterly	County Road 45	0.60	5.00	4.53	4.06	3.59	3.12	9.00	8.77	8.54	8.31	8.08	7.85
047A	Concession 5	0.3km W of County Rd 30	MacDermid Rd	2.00	8.00	7.53	7.06	6.59	6.12	5.89	5.66	5.43	7.20	6.97	6.74
048	Concesssion 16	County Road 20, westerly	McLeod Road	1.60	5.00	4.53	4.06	3.59	3.12	2.89	2.66	2.43	2.20	2.00	2.00
050	Concession 17	County Road 20, westerly	1.0 km W. of County Road 20	1.00	5.00	4.53	4.06	3.59	3.12	2.89	9.00	8.77	8.54	8.31	8.08
056	Concession 8	County Road 20	2.0km E. of Co. Rd. 20	2.00	5.00	4.53	4.06	3.59	3.12	2.89	2.66	2.43	2.20	2.00	2.00
056A	Concession 8	2.0km E. of Co. Rd. 20	Bridge Crossing @ Blythe Rd	2.40	5.00	4.53	4.06	3.59	3.12	2.89	2.66	2.43	2.20	2.00	2.00
071	Skye Road	County Road 30, easterly	Easterly 3.2km	3.20	4.00	3.53	3.06	2.59	2.12	2.00	2.00	2.00	2.00	2.00	2.00
122	Power Dam Road	County Road 34	McCormick Road	2.70	5.00	4.53	4.06	3.59	3.12	2.89	2.66	2.43	2.20	2.00	2.00
123	McCormick Road	Power Dam Road	1 km easterly	1.00	5.00	4.53	4.06	3.59	3.12	2.89	2.66	2.43	2.20	2.00	2.00
123A	McCormick Road	1 km East of Power Dam Road	County Road 23	7.90	3.50	3.03	2.56	2.09	2.00	2.00	2.00	2.00	2.00	2.00	2.00
124	Hope-Ouimet Road, Conc. 3	County Road 21	Gore Road	3.60	3.00	2.53	2.06	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
125	Gore Road	Hope-Ouimet Road, easterly	1.1km East of Hope-Ouimet Rd	1.10	5.00	4.53	4.06	3.59	3.12	2.89	2.66	2.43	2.20	2.00	2.00
134	Emma Lane	Florence Street, easterly	Dead End	0.30	4.00	3.53	3.06	2.59	2.12	2.00	2.00	2.00	2.00	2.00	2.00
154	River Road	1.1 km S. of County Road 10	3.2 km S. of County Road 10	2.10	4.00	3.53	3.06	2.59	2.12	2.00	2.00	2.00	2.00	2.00	2.00
157A	Power Dam Road	0.2 km E. of Sandfield	Power Dam Road	0.50	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
161	MacMillan Road	Bush Road	County Road 21	2.20	5.00	9.00	8.53	8.06	7.59	7.36	7.13	6.90	6.67	6.44	6.21
193	Breadalbane Road, E.	East Hawkesbury Boundary	Westerly 1.7 km	1.70	8.00	7.53	7.06	6.59	6.12	5.89	5.66	7.43	7.20	6.97	6.74
194	Breadalbane Road, E.	1.7 km W.of E. Hawkesbury Rd	County Road 23	1.10	4.00	3.53	3.06	2.59	2.12	2.00	2.00	9.00	8.77	8.54	8.31
199	Aberdeen Road	2.0 km N. of Lochinvar	W. Hawkesbury Boundary	0.20	4.00	3.53	3.06	2.59	2.12	2.00	2.00	2.00	2.00	2.00	2.00
377	Park Avenue	Dead End, southerly	Derby Street	0.10	6.00	5.53	5.06	4.59	4.12	3.89	3.66	3.43	3.20	2.97	2.74
WEIGHTED AVERAGE CONDITION RATING					5.03	4.70	4.70	4.29	3.94	4.03	3.97	3.98	4.02	3.88	3.77
TOTAL KILOMETRES					75.10	75.10	75.10	75.10	75.10	75.10	75.10	75.10	75.10	75.10	75.10

PROPOSED 2016 TEN YEAR PLAN (HCB)

Condition Rating Adjusted to account for 2016 Capital Works

Condition Rating Adjusted to account for 2017 - 2026 Capital Works

FORECAST CONDITION RATINGS BY YEAR - HIGH CLASS BITUMINOUS SURFACE

No.	STREET	FROM	TO	Km	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
008	**Hugh Munro Street**	1.3 km East of Angel Road, E.	Old Ochard (County Road 20)	0.30	7.00	6.77	6.54	6.31	6.08	5.85	5.62	5.39	5.16	4.93	4.70
009	**Kennedy Avenue**	Hugh Munro Street	CPR R-O-W	0.40	4.00	3.77	3.54	3.31	3.08	2.85	2.62	2.39	2.16	2.00	2.00
010	**Joseph Street**	Kennedy Avenue, Southerly	County Road 20, old Orchid	0.10	5.00	4.77	4.54	4.31	4.08	3.85	3.62	3.39	3.16	2.93	2.70
011	**Hugh Munro Street**	County Road 20	0.3 km E. of County Rd. 20	0.30	3.00	2.77	2.54	2.31	2.08	2.00	2.00	2.00	2.00	2.00	2.00
027B	**Concession 4, Kenyon**	2.4km east of Dornie Rd	Hwy 34	2.40	9.00	8.77	8.54	8.31	8.08	7.85	7.62	7.39	7.16	6.93	6.70
032A	**Kenyon Dam Road**	County Rd 45	Concession Rd 2	0.50	8.00	7.77	7.54	7.31	7.08	6.85	6.62	6.39	6.16	5.93	5.70
039	**Concession 6**	Highway 34	Westerly 1.8km	1.80	4.00	3.77	3.54	**9.00**	8.77	8.54	8.31	8.08	7.85	7.62	7.39
039A	**Concession 6**	1.8km west of Highway 34	Westerly 2.5km	0.70	6.00	5.77	5.54	**8.81**	8.58	8.35	8.12	**8.64**	8.41	8.18	7.95
039B	**Concession 6**	2.5km west of Highway 34	County Road 30	6.50	4.00	3.77	3.54	3.31	3.08	2.85	2.62	2.39	2.16	2.00	2.00
040	**Station Street (Greenfield)**	County Road 30	Dead End	0.10	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
042	**Father Ranald**	County Road 30, westerly	Donald Street	0.10	3.00	2.77	2.54	2.31	2.08	2.00	2.00	2.00	2.00	2.00	2.00
043	**Donald Street**	Father Ranald, southerly	Concession 5	0.10	3.00	2.77	2.54	2.31	2.08	2.00	2.00	2.00	2.00	2.00	2.00
046	**Concession 5**	County Road 30, westerly	0.3 km W. of County Road 30	0.30	5.00	4.77	4.54	4.31	4.08	3.85	3.62	3.39	3.16	2.93	2.70
058	**Athol Road (Kenyon Conc. 20)**	County Road 20	North Stormont Limits	1.70	4.00	3.77	3.54	3.31	3.08	2.85	2.62	2.39	2.16	2.00	2.00
065	**Stewart's Glen Concession 21**	County Road 20, easterly 1.5 km	Bridge	1.50	5.00	4.77	4.54	4.31	4.08	3.85	3.62	3.39	3.16	2.93	2.70
068	**Murray Street**	County Road 30	Pendleton Street	0.20	3.00	2.77	2.54	2.31	2.08	2.00	2.00	2.00	2.00	2.00	2.00
069	**Pendleton Street**	Murray Street, southerly	County Road 30	0.10	3.00	2.77	2.54	2.31	2.08	2.00	2.00	2.00	2.00	2.00	2.00
070	**Alice Street**	County Road 24	Murray Street	0.10	3.00	2.77	2.54	2.31	2.08	2.00	2.00	2.00	2.00	2.00	2.00
078	**Concession 8**	Highway 34	3.4 km West	3.10	5.00	4.77	4.54	4.31	4.08	3.85	3.62	3.39	3.16	2.93	2.70
084	**James Street**	Main St. (County Road 20)	J.H. Munro Street	0.05	5.00	4.77	4.54	4.31	4.08	3.85	3.62	3.39	3.16	2.93	2.70
086	**J.H. Munro Street**	James Street	Carr Street	0.35	5.00	4.77	4.54	4.31	4.08	3.85	3.62	3.39	3.16	2.93	2.70
087	**Carr Street**	Main St. (County Road 20)	0.45 km E. of Main Street	0.45	5.00	4.77	4.54	4.31	4.08	3.85	3.62	3.39	3.16	2.93	2.70
088	**Carr Street**	0.45 km E. of County Rd. 20	0.9 km E. of County Road 20	0.80	5.00	4.77	4.54	4.31	4.08	3.85	3.62	3.39	3.16	2.93	2.70
090	**Mechanic Street, E.**	Main St. (County Road 20), E.	Marlborough Street	0.03	6.00	5.77	5.54	5.31	5.08	4.85	4.62	4.39	4.16	3.93	3.70
091	**Mechanic Street**	Marlborough Street, easterly	Robert Street	0.07	5.00	4.77	4.54	4.31	4.08	3.85	3.62	3.39	3.16	2.93	2.70
092	**Mechanic Street**	Robert Street	Highland Road	0.50	5.00	4.77	4.54	4.31	4.08	3.85	3.62	3.39	3.16	2.93	2.70
093	**Highland Road**	Mechanic Street	Maxville Fair Grounds	0.10	3.00	2.77	2.54	2.31	2.08	2.00	2.00	2.00	2.00	2.00	2.00
094	**Robert Street**	Mechanic Street, notherly	Fair Street	0.20	5.00	4.77	4.54	4.31	4.08	3.85	3.62	3.39	3.16	2.93	2.70
095	**Robert Street**	Fair Street	Dead End	0.10	4.00	3.77	3.54	3.31	3.08	2.85	2.62	2.39	2.16	2.00	2.00
096	**Alexander Street**	Main Street	Marlborough Street	0.03	5.00	4.77	4.54	4.31	4.08	3.85	3.62	3.39	3.16	2.93	2.70
097	**Alexander Street**	Marlborough Street, easterly	Robert Street	0.07	6.00	5.77	5.54	5.31	5.08	4.85	4.62	4.39	4.16	3.93	3.70
098	**Marlborough Street**	Mechanic Street	Campbell Crescent	0.60	5.00	4.77	4.54	4.31	4.08	3.85	3.62	3.39	3.16	2.93	2.70
099	**Campbell Crescent**	Marlborough Street	Cul-de-Sac	0.50	5.00	4.77	4.54	4.31	4.08	3.85	3.62	3.39	3.16	2.93	2.70
100	**Fair Street**	Main Street, County Road 20	Robert Street	0.15	7.00	6.77	6.54	6.31	6.08	5.85	**9.00**	8.77	8.54	8.31	**8.83**
100A	**Fair Street**	Robert Street	Fairgrounds	0.25	4.00	3.77	3.54	3.31	3.08	2.85	**9.00**	8.77	8.54	8.31	**8.83**
101	**Grant Avenue**	Main Street, County Road 20	Villeneuve	0.30	4.00	3.77	3.54	3.31	3.08	2.85	2.62	2.39	2.16	2.00	2.00
102	**Villeneuve**	Grant Avenue	Alexander Street	0.30	4.00	3.77	3.54	3.31	3.08	2.85	2.62	2.39	2.16	2.00	2.00
103	**Alexander Street**	Dead End	Main Street, County Road 20	0.30	4.00	3.77	3.54	3.31	3.08	2.85	2.62	2.39	2.16	2.00	2.00
104	**John Street**	County Road 22 (Mechanic St.)	Alexander Street	0.10	3.00	2.77	2.54	2.31	2.08	2.00	2.00	2.00	2.00	2.00	2.00
105	**King Street, North**	Alexander Street, southerly	County Road 22 (Mechanic St.)	0.10	3.00	2.77	2.54	2.31	2.08	2.00	2.00	2.00	2.00	2.00	2.00
106	**King Street, South**	County Road 22 (Mechanic St.)	Prince Street	0.10	4.00	3.77	3.54	3.31	3.08	2.85	2.62	2.39	2.16	2.00	2.00
107	**Adelaide Street**	King Street, South	Queen Street	0.10	4.00	3.77	3.54	3.31	3.08	2.85	2.62	2.39	2.16	2.00	2.00
109	**Queen Street**	Mechanic Street, West	Adelaide Street	0.10	4.00	3.77	3.54	3.31	3.08	2.85	2.62	2.39	2.16	2.00	2.00
110	**Prince Street**	Mechanic Street, West	Catherine Street, West	0.50	8.00	7.77	7.54	7.31	7.08	6.85	6.62	6.39	6.16	5.93	5.70
111	**Catherine Street, West**	Prince Street	Main Street, South	0.25	4.00	3.77	3.54	3.31	3.08	2.85	2.62	2.39	**9.00**	8.77	8.54
111A	**Catherine Street, West**	King Street	Prince Street	0.10	7.00	6.77	6.54	6.31	6.08	5.85	5.62	5.39	**8.66**	8.43	8.20
112	**Catherine Street, East**	Main Street	Dead End	0.35	3.00	2.77	2.54	2.31	2.08	2.00	2.00	2.00	**9.00**	8.77	8.54
113	**Elizabeth Street**	Catherine Street	Peter Street	0.10	4.00	3.77	3.54	3.31	3.08	2.85	2.62	2.39	2.16	2.00	2.00
114	**Peter Street**	Elizabeth Street	Main Street	0.20	7.00	6.77	6.54	6.31	6.08	5.85	5.62	5.39	5.16	4.93	4.70
115	**Peter Street**	Elizabeth Street	Dead End	0.10	5.00	4.77	4.54	4.31	4.08	3.85	3.62	3.39	3.16	2.93	2.70

FORECAST CONDITION RATINGS BY YEAR - HIGH CLASS BITUMINOUS SURFACE (cont'd)

No.	STREET	FROM	TO	Km	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
117	**Carr Street, West**	Catherine Street	Main Street	0.10	6.00	5.77	5.54	5.31	5.08	4.85	4.62	4.39	4.16	3.93	3.70
118	**Spring Street**	Catherine Street	George Street	0.20	3.00	2.77	2.54	2.31	2.08	2.00	2.00	2.00	2.00	2.00	2.00
119	**Church Street**	Spring Street	Main Street	0.10	4.00	3.77	3.54	3.31	3.08	2.85	2.62	2.39	2.16	2.00	2.00
120	**George Street**	Main Street	Dead End	0.15	3.00	2.77	2.54	2.31	2.08	2.00	2.00	2.00	2.00	2.00	2.00
121	**Power Dam Road**	County Road 34, westerly	Dead End	0.30	8.00	7.77	7.54	7.31	7.08	6.85	6.62	6.39	6.16	5.93	5.70
126	**Hope-Ouimet Road**	Gore Road, southerly	County Road 10	0.80	4.00	3.77	3.54	3.31	3.08	2.85	2.62	2.39	2.16	2.00	2.00
130	**London Street**	County Road 10, northerly	Dead End	0.10	4.00	3.77	3.54	3.31	3.08	2.85	2.62	2.39	2.16	2.00	2.00
132	**Fox Lane**	County Road 10, northerly	Dead End	0.10	4.00	3.77	3.54	3.31	3.08	2.85	2.62	2.39	2.16	2.00	2.00
133	**Florence Street**	County Road 23, northerly	Dead End	0.40	3.50	3.27	3.04	2.81	2.58	2.35	2.12	2.00	2.00	2.00	2.00
138	**Rigaud Street**	County Road 10, northerly	Sauvé Street	0.20	4.00	3.77	3.54	3.31	3.08	2.85	2.62	2.39	2.16	2.00	2.00
139	**Sauvé Street**	Rigaud Street	County Road 23	0.40	4.00	3.77	3.54	3.31	3.08	2.85	2.62	2.39	2.16	2.00	2.00
140	**Dashney Street**	County Road 23	Chisholm Street	0.10	4.00	3.77	3.54	3.31	3.08	2.85	2.62	2.39	2.16	2.00	2.00
141	**Chisholm Street**	County Road 10, northerly	Dead End	0.40	3.00	2.77	2.54	2.31	2.08	2.00	2.00	2.00	2.00	2.00	2.00
142	**Hope Lane**	County Road 10, northerly	Dead End	0.10	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
143	**Clara Street**	County Road 10, northerly	Seguin Mill Street	0.10	3.00	2.77	2.54	2.31	2.08	2.00	2.00	2.00	2.00	2.00	2.00
144	**Seguin Mill Street**	Clara Street	Irvin Street	0.20	3.00	2.77	2.54	2.31	2.08	2.00	2.00	2.00	2.00	2.00	2.00
145	**Irwin St**	County Road 10	Water Treatment Plant	0.10	3.00	2.77	2.54	2.31	2.08	2.00	2.00	2.00	2.00	2.00	2.00
145A	**Annie St**	County Road 10	Sequin Mill Street	0.10	4.00	3.77	3.54	3.31	3.08	2.85	2.62	2.39	2.16	2.00	2.00
155	**River Road**	3.2 km S. of County Road 10	Front Street (Alexandria)	0.20	4.00	3.77	3.54	3.31	3.08	2.85	2.62	2.39	2.16	2.00	2.00
156	**McCormick Road (Golf Course)**	Sandfield	0.2 km easterly	0.20	6.00	5.77	5.54	5.31	5.08	4.85	4.62	4.39	4.16	3.93	**7.20**
157	**McCormick Road (Golf Course)**	0.2 km E. of Sandfield	Power Dam Road	1.50	8.00	7.77	7.54	7.31	7.08	6.85	6.62	6.39	6.16	5.93	**9.20**
157B	**McCormick Road (Golf Course)**	0.2 km E. of Sandfield	Power Dam Road	1.20	6.00	5.77	5.54	5.31	5.08	4.85	4.62	4.39	4.16	3.93	**7.20**
160	**Ouellette Road**	McCormick Road	Bush Road	2.20	9.00	8.77	8.54	8.31	8.08	7.85	7.62	7.39	7.16	6.93	6.70
168	**Glen Sandfield Road**	County Road 23	0.1 km easterly	0.10	4.00	3.77	3.54	3.31	3.08	2.85	2.62	2.39	2.16	2.00	2.00
174	**Brodie Road**	2.3 km W. of County Road 23,W	Lorne School Road	2.50	**5.00**	4.77	4.54	4.31	4.08	3.85	3.62	3.39	3.16	2.93	2.70
175	**Lorne School Road**	Brodie Road, West	County Road 21	1.00	6.00	5.77	5.54	5.31	5.08	4.85	4.62	4.39	4.16	3.93	3.70
178	**Eigg Road**	County Road 34	1.5 km easterly of County Rd.34	1.50	5.00	4.77	4.54	4.31	4.08	3.85	3.62	3.39	3.16	**9.00**	8.77
206	**Tannery Road**	County Road 34	200m SE of Co Rd 34 (Herbs')	0.20	**7.00**	6.77	6.54	6.31	6.08	5.85	5.62	5.39	5.16	4.93	4.70
206A	**Tannery Road**	200m SE of Co Rd 34 (Herbs')	Lochinvar Road	1.80	**4.00**	3.77	3.54	3.31	3.08	2.85	2.62	2.39	2.16	2.00	2.00
207	**Nixon Boundary Road**	County Road 34	0.3 km W. of County Road 34	0.30	3.00	2.77	2.54	2.31	2.08	2.00	2.00	2.00	2.00	2.00	2.00
210	**Service Road**	Tannery Road, easterly	Entrance to Service Centre	0.30	5.00	4.77	4.54	4.31	4.08	3.85	3.62	3.39	3.16	2.93	2.70
219	**Lochinvar Road (paved)**	4.0 km W. of Aberdeen Road,W.	County Road 34	2.40	3.00	2.77	2.54	2.31	2.08	2.00	2.00	2.00	2.00	2.00	2.00
231	**McCrimmon Drive**	County Road 31	Dead End	0.20	3.00	2.77	2.54	2.31	2.08	2.00	2.00	2.00	2.00	2.00	2.00
233	**Old Military Road**	Lochinvar Road	2km South of County Road 24	6.40	**5.00**	4.77	4.54	4.31	4.08	3.85	3.62	3.39	3.16	2.93	2.70
233A	**Old Military Road**	2km South of County Road 24	County Road 21	2.50	**3.00**	2.77	2.54	2.31	2.08	2.00	2.00	2.00	2.00	2.00	2.00
300	**MacLeod Crescent**	River Road	Boundary Road, East	0.30	5.00	4.77	4.54	4.31	4.08	3.85	3.62	3.39	3.16	2.93	2.70
301	**Front Street**	Tobin Street	0.1km east of Tobin St	0.10	7.00	6.77	6.54	6.31	6.08	5.85	5.62	5.39	5.16	**8.43**	8.20
301A	**Front Street**	0.1km east of Tobin St	Boundary Road, East	0.30	3.00	2.77	2.54	2.31	2.08	2.00	2.00	2.00	2.00	2.00	2.00
302	**Tobin Street**	County Road 34	0.3 km S. of County Road 34	0.30	5.00	4.77	4.54	4.31	4.08	3.85	3.62	3.39	3.16	**9.00**	8.77
303	**Front Street**	0.3 km S. of County Road 34	SW 0.1 km to County Road 34	0.10	6.00	5.77	5.54	5.31	5.08	4.85	4.62	4.39	4.16	**9.00**	8.77
304	**William Street**	Tobin Street@County Road 34,E	Boundary Road, East	0.40	3.00	2.77	2.54	2.31	2.08	2.00	2.00	2.00	2.00	2.00	2.00
305	**Boundary Road, E.**	Front Street	Victoria Street	0.90	3.00	2.77	2.54	2.31	2.08	2.00	2.00	**9.00**	8.77	8.54	8.31
306	**Boundary Road, E.**	Victoria Street	Lochiel Street, County Road 10	0.20	7.00	6.77	6.54	6.31	6.08	5.85	5.62	**8.89**	8.66	8.43	8.20
306A	**St. James Street**	Boundary Road, E. Westerly	County Road 34	0.20	5.00	**8.27**	8.04	7.81	7.58	**8.10**	7.87	7.64	7.41	**7.93**	7.70
306B	**St. James Street**	Bishop Road	Boundary Road	0.20	6.00	**9.27**	9.04	8.81	8.58	**9.10**	8.87	8.64	8.41	**8.93**	8.70
307	**Victoria Street, E.**	County Road 34, easterly	Bishop Street	0.30	6.00	**9.27**	9.04	8.81	8.58	**9.10**	8.87	8.64	8.41	**8.93**	8.70
308	**Victoria Street, E.**	Bishop Street, easterly	Boundary Road, East	0.10	6.00	**9.27**	9.04	8.81	8.58	**9.10**	8.87	8.64	8.41	**8.93**	8.70
309	**Viau Street**	Boundary Road, East	Dead End (school bus depot)	0.10	5.00	4.77	4.54	4.31	4.08	3.85	3.62	3.39	3.16	2.93	2.70
310	**Bishop Street**	Lochiel Street, southerly	Victoria Street	0.20	6.00	**9.27**	9.04	8.81	8.58	**9.10**	8.87	8.64	8.41	**8.93**	8.70
311	**Bishop Street**	Victoria Street, E.	St. James	0.20	7.00	**10.00**	9.77	9.54	9.31	**9.83**	9.60	9.37	9.14	**9.66**	9.43
312	**Dominion Street, South**	St. James, southerly	William Street	0.50	3.00	2.77	2.54	2.31	2.08	2.00	2.00	2.00	2.00	2.00	2.00
313	**Albert Street**	County Road 34	Dominion Street, South	0.10	3.00	2.77	2.54	2.31	2.08	2.00	2.00	2.00	2.00	2.00	2.00
314	**Bishop Street**	County Road, Lochiel Street, N.	Peel Street, E.	0.10	5.00	**8.27**	8.04	7.81	7.58	**8.10**	7.87	7.64	7.41	**7.93**	7.70
315	**Bishop Street**	Peel Street, E.	Center Street	0.50	4.00	**7.27**	7.04	6.81	6.58	**7.10**	6.87	6.64	6.41	**6.93**	6.70
316	**Bishop Street**	Center Street	Kenyon Street, E.	0.10	6.00	**9.27**	9.04	8.81	8.58	**9.10**	8.87	8.64	8.41	**8.93**	8.70

FORECAST CONDITION RATINGS BY YEAR - HIGH CLASS BITUMINOUS SURFACE (cont'd)

No.	STREET	FROM	TO	Km	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
317	**Bishop Street**	Kenyon Street, E.	St. George Street, E.	0.10	6.00	**9.27**	9.04	8.81	8.58	**9.10**	8.87	8.64	8.41	**8.93**	8.70
318	**Bishop Street**	St. George Street, E.	Kincardine Street	0.10	6.00	**9.27**	9.04	8.81	8.58	**9.10**	8.87	8.64	8.41	**8.93**	8.70
319	**Bishop Street**	Kincardine Street	McDougald Street	0.50	7.00	6.77	6.54	6.31	6.08	**5.93**	5.70	5.47	5.24	**5.76**	5.53
320	**McDougald Street**	Bishop Street	County Road 34	0.20	**6.00**	5.77	5.54	5.31	5.08	4.85	4.62	4.39	4.16	3.93	3.70
321	**Dominion Street, North**	McDougald Street, E.	Elm Street	0.10	6.00	5.77	5.54	5.31	5.08	4.85	4.62	4.39	4.16	3.93	3.70
322	**Dominion Street, South**	Elm Street	Maple Street	0.10	6.00	5.77	5.54	5.31	5.08	4.85	4.62	4.39	4.16	3.93	3.70
323	**Dominion Street**	Maple Street	0.1km south	0.10	3.00	2.77	2.54	2.31	2.08	2.00	2.00	2.00	2.00	2.00	2.00
323A	**Dominion Steet**	0.1km South	Kincardine Street	0.10	8.00	7.77	7.54	7.31	7.08	6.85	6.62	6.39	6.16	5.93	5.70
324	**Dominion Street**	Kincardine Street	Kenyon Street, E.	0.20	5.00	4.77	4.54	4.31	4.08	3.85	3.62	3.39	3.16	2.93	2.70
325	**Dominion Street**	Keyon Street E.	Center Street	0.10	5.00	4.77	4.54	4.31	4.08	3.85	3.62	3.39	3.16	2.93	2.70
326	**Dominion Street**	Center Street	St. Paul Street	0.10	5.00	4.77	4.54	4.31	4.08	3.85	3.62	3.39	3.16	2.93	2.70
327	**Dominion Street**	St. Paul Street	Lochiel Street, County Road 10	0.50	4.00	3.77	3.54	3.31	3.08	2.85	2.62	2.39	2.16	2.00	2.00
328	**Sandfield Avenue**	Lochiel Street, County Road 10	St. Paul Street	0.50	7.00	6.77	6.54	6.31	**9.58**	9.35	9.12	8.89	**9.41**	9.18	8.95
329	**Sandfield Avenue**	St. Paul Street	Dead End	0.20	9.00	8.77	8.54	8.31	8.08	7.85	7.62	7.39	7.16	6.93	6.70
330	**Sandfield Avenue**	Kenyon Street, E.	Kincardine Street	0.30	6.00	5.77	5.54	5.31	5.08	4.85	4.62	4.39	4.16	3.93	3.70
331	**McNab Street**	Bishop Street, N.	Dead End	0.10	5.00	4.77	4.54	**7.81**	7.58	7.35	7.12	**7.64**	7.41	7.18	6.95
332	**Elm Street**	Bishop Street, N.	Dominion Street	0.10	6.00	5.77	5.54	**8.81**	8.58	8.35	8.12	**8.64**	8.41	8.18	7.95
333	**Elm Street**	Dominion Street	County Road 34	0.10	6.00	5.77	5.54	**8.81**	8.58	8.35	8.12	**8.64**	8.41	8.18	7.95
334	**Maple Street**	County Road 34	Bishop Street	0.20	8.00	7.77	7.54	7.31	7.08	6.85	6.62	6.39	6.16	5.93	5.70
335	**Kincardine Street, E.**	Bishop Street	Dominion Street	0.10	6.00	5.77	5.54	5.31	**8.58**	8.35	8.12	7.89	**8.41**	8.18	7.95
336	**Kincardine Street**	Dominion Street	Main Street, County Road 34	0.10	4.00	3.77	3.54	3.31	**9.00**	8.77	8.54	8.31	**8.83**	8.60	8.37
337	**Kincardine Street**	Bishop Street	Sandfield Avenue	0.20	6.00	5.77	5.54	5.31	**8.58**	8.35	8.12	7.89	**8.41**	8.18	7.95
337A	**Kincardine St**	Sandfiled Avenue	Dead End	0.10	8.00	7.77	7.54	7.31	7.08	6.85	6.62	6.39	6.16	5.93	5.70
338	**St. George Street, E.**	Dead End	Bishop Street	0.40	7.00	6.77	6.54	6.31	6.08	5.85	5.62	5.39	5.16	4.93	4.70
339	**St. George Street, E.**	Bishop Street	County Road 34	0.20	4.00	3.77	3.54	3.31	3.08	2.85	2.62	2.39	2.16	2.00	2.00
340	**Elgin Street, E.**	County Road 34	Bishop Street	0.20	4.00	3.77	3.54	3.31	3.08	2.85	2.62	2.39	2.16	2.00	2.00
341	**Kenyon Street, E.**	Sandfield Avenue	Bishop Street	0.20	5.00	4.77	4.54	4.31	4.08	3.85	3.62	3.39	3.16	2.93	**9.00**
342	**Kenyon Street, E.**	Bishop Street	County Road 34	0.20	4.00	3.77	3.54	3.31	3.08	2.85	2.62	2.39	2.16	2.00	**9.00**
343	**Center Street**	County Road 34	0.1 East of Bishop Street	0.30	4.00	3.77	3.54	3.31	3.08	2.85	2.62	2.39	2.16	2.00	2.00
344	**Center Street**	Bishop Street	Sandfield Avenue	0.10	8.00	7.77	7.54	7.31	7.08	6.85	6.62	6.39	6.16	5.93	5.70
345	**Gernish Street, E.**	Bishop Street	Dominion Street	0.10	4.00	3.77	3.54	3.31	3.08	2.85	2.62	2.39	2.16	2.00	2.00
346	**Gernish Street, E.**	Dominion Street	County Road 34	0.10	6.00	5.77	5.54	5.31	5.08	4.85	4.62	4.39	4.16	3.93	3.70
347	**St. Paul Street**	County Road 34	Sandfield Avenue	0.40	4.00	3.77	3.54	3.31	3.08	2.85	2.62	2.39	2.16	2.00	2.00
348	**Conroy Crescent**	Sandfield Avenue	Sandfield Avenue	0.10	5.00	4.77	4.54	4.31	4.08	3.85	3.62	3.39	3.16	2.93	2.70
349	**Cul de Sac**	Off Sandfield Avenue, N.	Sandfield Avenue	0.05	6.00	5.77	5.54	5.31	5.08	4.85	4.62	4.39	4.16	3.93	3.70
349A	**Ethier Street**	Sandfield Avenue	St. George Street, E.	0.30	6.00	5.77	5.54	5.31	5.08	4.85	4.62	4.39	4.16	3.93	3.70
350	**Derby Street, E.**	County Road 34	Dominion Street	0.10	5.00	4.77	4.54	4.31	4.08	3.85	3.62	3.39	3.16	2.93	2.70
351	**Derby Street**	Dominion Street, South	Bishop Street	0.10	5.00	4.77	4.54	4.31	4.08	3.85	3.62	3.39	3.16	2.93	2.70
352	**Peel Street**	Bishop Street	Sandfield Avenue	0.20	5.00	4.77	4.54	4.31	4.08	3.85	3.62	3.39	3.16	2.93	2.70
353	**Peel Street**	Bishop Street	County Road 34	0.20	6.00	5.77	5.54	5.31	5.08	4.85	4.62	4.39	4.16	3.93	3.70
354	**Linsley Street, E.**	County Road 34	Dead End	0.50	3.00	2.77	2.54	2.31	2.08	2.00	2.00	2.00	2.00	2.00	2.00
355	**Linsley Street, W.**	County Road 34	Dead End	0.20	6.00	5.77	5.54	5.31	5.08	4.85	4.62	4.39	4.16	3.93	3.70
356	**MacDonald Blvd.**	MacDougald Street, W.	Dead End	0.30	6.00	5.77	5.54	5.31	5.08	4.85	4.62	4.39	4.16	3.93	3.70
357	**Leroux Street**	MacDonald Blvd.	Industrial Blvd.	0.20	6.00	5.77	5.54	5.31	5.08	4.85	4.62	4.39	4.16	3.93	3.70
358	**Industrial Blvd.**	Leroux Street	Touchette Street	0.70	4.00	3.77	3.54	3.31	3.08	2.85	2.62	2.39	2.16	2.00	2.00
359	**Touchette Street**	Industrial Blvd.	MacDonald Blvd.	0.20	4.00	3.77	3.54	3.31	3.08	2.85	2.62	2.39	2.16	2.00	2.00
360	**Kincardine Street, W.**	County Road 34	MacDonald Blvd.	0.40	6.00	5.77	5.54	5.31	**8.58**	8.35	8.12	7.89	**8.41**	8.18	7.95
361	**Hope Street**	Kincardine Street	McDougald Street	0.20	6.00	5.77	5.54	5.31	5.08	4.85	4.62	4.39	4.16	3.93	3.70
361A	**Hope Street**	Ronald Street	Kincardine Street	0.30	4.00	3.77	3.54	3.31	3.08	2.85	2.62	2.39	2.16	2.00	2.00
362	**Trottier Crescent**	McDougald Street	Hope Street	0.20	6.00	5.77	5.54	5.31	5.08	4.85	4.62	4.39	4.16	3.93	3.70
363	**Ronald Street**	Hope Street	MacDonald Blvd.	0.10	4.00	3.77	3.54	3.31	3.08	2.85	2.62	2.39	2.16	2.00	2.00
364	**St. George Street, W.**	MacDonald Blvd.	Dead End	0.20	5.00	4.77	4.54	4.31	4.08	3.85	3.62	3.39	3.16	2.93	2.70
365	**St. George Street**	MacDonald Blvd.	County Road 34	0.40	5.00	4.77	4.54	4.31	4.08	3.85	3.62	3.39	3.16	2.93	2.70
366A	**Elgin Street, W.**	MacDonald Blvd.	Sinclair Street	0.30	10.00	9.77	9.54	9.31	9.08	8.85	8.62	8.39	8.16	7.93	7.70
366B	**Elgin Street, W.**	Sinclair Street	County Road 34	0.10	10.00	9.77	9.54	9.31	9.08	8.85	8.62	8.39	8.16	7.93	7.70
367	**Elgin Street, W.**	MacDonald Blvd.	Dead End	0.10	4.00	3.77	3.54	3.31	3.08	2.85	2.62	2.39	2.16	2.00	2.00

FORECAST CONDITION RATINGS BY YEAR - HIGH CLASS BITUMINOUS SURFACE (cont'd)

No.	STREET	FROM	TO	Km	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
368	**Margaret Street**	Elgin Street	St. George Street	0.10	4.00	3.77	3.54	3.31	3.08	2.85	2.62	2.39	2.16	2.00	2.00
369	**Harrison Street**	Kincardine Street	Kenyon Street	0.20	6.00	5.77	5.54	5.31	5.08	4.85	4.62	4.39	4.16	3.93	3.70
370	**Sinclair Street**	Kenyon Street	Elgin Street	0.10	7.00	6.77	6.54	6.31	**9.58**	9.35	9.12	8.89	**9.41**	9.18	8.95
371	**Sinclair Street**	Elgin Street	Kincardine Street	0.20	7.00	6.77	6.54	6.31	**9.58**	9.35	9.12	8.89	**9.41**	9.18	8.95
372	**Harrison Street**	County Road 43	Dead End (Cul de Sac)	0.20	6.00	5.77	5.54	5.31	5.08	4.85	4.62	4.39	4.16	3.93	3.70
373	**Catherine-Fraser**	Dead End @ Mill Pond	Ottawa Street	0.20	5.00	4.77	4.54	4.31	4.08	3.85	3.62	3.39	3.16	2.93	2.70
374	**Mill Square**	County Road 34	Ottawa Street	0.06	6.00	5.77	5.54	5.31	5.08	4.85	4.62	4.39	4.16	3.93	3.70
375	**Ottawa Street**	Mill Square	County Road 43	0.10	6.00	5.77	5.54	5.31	5.08	4.85	4.62	4.39	4.16	3.93	3.70
376	**Gernish Street, W.**	County Road 34	Park Avenue @ Mill Pond	0.10	5.00	4.77	4.54	4.31	4.08	3.85	3.62	3.39	3.16	2.93	2.70
378	**Park Avenue**	Derby Street	Lochiel Street	0.30	5.00	4.77	4.54	4.31	4.08	3.85	3.62	3.39	3.16	2.93	2.70
379	**Lochiel Street**	Dead End	West Boundary Road	0.50	4.00	3.77	3.54	3.31	3.08	**9.00**	8.77	8.54	8.31	8.08	7.85
380	**Lochiel Street**	West Boundary Road	Park Avenue	0.20	6.00	5.77	5.54	5.31	5.08	**8.35**	8.12	7.89	7.66	**8.18**	7.95
381	**Lochiel Street**	Park Avenue	County Road 34	0.10	7.00	6.77	6.54	6.31	6.08	**9.35**	9.12	8.89	8.66	**9.18**	8.95
382	**Derby Street, W.**	County Road 34	Park Avenue	0.10	8.00	7.77	7.54	7.31	7.08	6.85	6.62	6.39	6.16	5.93	5.70
383	**Peel Street**	Park Avenue	County Road 34	0.10	5.00	4.77	4.54	4.31	4.08	3.85	3.62	3.39	3.16	2.93	2.70
384	**West Boundary Road**	Lochiel Street, West	Clement Street	0.20	7.00	6.77	6.54	6.31	**9.58**	9.35	9.12	8.89	**9.41**	9.18	8.95
385	**West Boundary Road**	Clement Street	County Road 45	1.10	7.00	6.77	6.54	6.31	**9.58**	9.35	9.12	8.89	**9.41**	9.18	8.95
386	**Jean Street**	West Boundary Road	Dead End (Cul de Sac)	0.20	4.00	3.77	3.54	3.31	3.08	2.85	2.62	2.39	2.16	2.00	2.00
387	**Victoria Street, West**	West Boundary Road	County Road 34	0.20	5.00	4.77	4.54	4.31	4.08	3.85	3.62	3.39	3.16	2.93	2.70
388	**Clement Street**	Victoria Street, West	Boundary Road, West	0.30	7.00	6.77	6.54	6.31	6.08	5.85	5.62	5.39	5.16	4.93	4.70
389	**Gauthier Street**	West Boundary Road	County Road 34	0.30	7.00	6.77	6.54	6.31	6.08	5.85	5.62	5.39	5.16	4.93	4.70
390	**Tonia Street**	West Boundary Road	Dead End @ cul de sac	0.20	6.00	5.77	5.54	5.31	5.08	4.85	4.62	4.39	4.16	3.93	3.70
391	**Anik Street**	West Boundary Road	County Road 34	0.30	5.00	4.77	4.54	4.31	4.08	3.85	3.62	3.39	3.16	2.93	2.70
392	**Jacques Street**	County Road 34	Massie Crescent	0.20	6.00	5.77	5.54	5.31	5.08	4.85	4.62	4.39	4.16	3.93	3.70
393	**Massie Crescent**	West Boundary Road	West Boundary Road	0.40	7.00	6.77	6.54	6.31	6.08	5.85	5.62	5.39	5.16	4.93	4.70
394	**Front Street, West**	County Road 34	West Boundary Road	0.15	8.00	7.77	7.54	7.31	7.08	6.85	6.62	6.39	6.16	**9.43**	9.20
WEIGHTED AVERAGE CONDITION RATING					**5.10**	**4.96**	**4.73**	**4.68**	**4.58**	**4.44**	**4.27**	**4.17**	**4.06**	**4.06**	**4.07**
TOTAL KILOMETRES					**79.16**	**79.16**	**79.16**	**79.16**	**79.16**	**79.16**	**79.16**	**79.16**	**79.16**	**79.16**	**79.16**