Havelock Belmont Methuen Road Needs Study

Engage Engineering Ltd.
File No. 20040

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Executive Summary

This Road Needs Study (RNS) was prepared for the Municipality of Havelock-Belmont-Methuen (HBM). This report is considered an update to the most recent study which was completed in 2015 by D.M. Wills Associates Limited. The current study was completed in accordance the *Inventory Manual for Municipal Roads (1991),* published by MTO, which is the standard guideline Road Needs Studies in the province and is consistent with previous study formats. This report summarizes the inspection process, the condition of the Municipality's road inventory and provides recommendations and cost estimates for the required capital and maintenance expenditures to maintain the inventory.

HBM's road network includes a total of 158 km of road, of which 83 km is gravel, 65 km is surface treated (low class bituminous) and 10 km is asphalt (high class bituminous). The roadside environment is predominantly rural but includes some semi-urban and urban sections in settlement areas such as the Village of Havelock.

The overall weighted average condition rating for the Municipality's road network is 67. 35% of the road network has a condition rating at or above 70, which generally indicates good overall condition. However, 55% of the network has a rating between 50 and 69. Roads with ratings in this range tend to require more costly intervention including rehabilitation or reconstruction. This large percentage requiring rehabilitation is an indication of inadequate funding levels.

The total capital needs identified in this study are $14.2 million. Of this total, $6.5 million are required now, $6.8 million are required in the 1 - 5 year horizon and $0.9 million are required in the 6 - 10 year horizon.

Within the time of need from now and through the 1– 5-year horizon, 140 kilometers of road have been identified as having needs including resurfacing, rehabilitation or reconstruction. The total quantity of road for each type of need is summarized below:

- 38 km of road require Resurfacing at a cost of $2.5M
- 88 km of road require Rehabilitation at a cost of $7.6M
- 14 km of road require Reconstruction at a cost of $3.1M

A five-year capital forecast was prepared by prioritizing the recommended improvements and constraining the annual expenditures to current funding levels of approximately $700,000. Projects were prioritized based on road condition, traffic volumes and life cycle cost of the improvement, an approach that is consistent with the current Asset Management Plan.

The current funding levels are not adequate to maintain the road network. The report recommends increasing annual funding for capital expenditures to $980,000.

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1.0 Study Purpose and Methodology

This Road Needs Study (RNS) was prepared for the Municipality of Havelock Belmont Methuen (HBM). This report is the most recent study since the update which was completed in 2015. The current study was completed in accordance with the *Inventory Manual for Municipal Roads (1991)* and is consistent with previous study formats. This report summarizes the inspection process, the condition of the Municipality's road inventory and provides recommendations and cost estimates for the required capital and maintenance expenditures to maintain the inventory.

1.1 Study Objectives

Prior to undertaking this study, the following objectives were identified in consultation with the Municipality:

- Obtain current condition ratings for all road sections within the Municipality's road network
- Determine the needs for each road section including the recommended improvements, time of need and construction costs
- Prioritize the recommended improvements and establish a 5-Year Capital Expenditure plan that can be used for budgeting purposes

1.2 Methodology

The study methodology generally followed the MTO *Inventory Manual for Municipal Roads (1991).* The study included the following elements:

- Field review and assessment of all road sections within the inventory
- Data entry of condition rating information into MDW for each section
- Analysis of condition information and development of recommended improvements for each road section
- Preparation of Recommended Improvement Plans for Preventative Maintenance, Resurfacing and Rehabilitation/Reconstruction
- Preparation of Recommended 5-Year Capital Funding Plan

Inventory information from the previous study was verified in the field during the inspection and updated in MDW as required. An established road section numbering scheme was in place for the inventory from previous studies and this was followed for this study. No changes were made to the section numbering or section lengths.

2.0 Road System Inventory

2.1 Existing Road Inventory

All roads within the Township were assessed as part of this study. The existing HBM road network includes a total of **158 km of road**, and can be further categorized according to surface type:

Gravel	83 km
Surface Treated (Low Class Bituminous)	65 km
Asphalt (High Class Bituminous)	10 km

The existing network is divided into 115 road sections which generally conform to the guidelines in the *Inventory Manual for Municipal Roads* in that the sections have uniform physical cross section, surface type, traffic volume and surrounding land use. The sections and numbering system were established in previous studies and were maintained for this study. A map showing the existing road network is included as **Figure 1** in the rear pocket of this report.

2.2 Road Classification

The roads within the inventory have been classified according to Ontario Regulation 239/02 Minimum Maintenance Standards. The purpose of this regulation is to establish road classifications from which minimum maintenance can be established. The classification is based on traffic volumes and posted speed limits, ranging from Class 1 to Class 6, with Class 1 being high volume, high speed roads and Class 6 being low volume, lower speed roads.

The maintenance class for each road section is provided in the detailed Inventory Summary in **Appendix A**. The total length of road for each maintenance class is summarized in the table below:

Table 2.1 – Roads by Maintenance Class

Maintenance Class	Total Length (km)
1	0
2	0
3	2.0
4	41.2
5	49.0
6	65.9

2.3 Current Traffic Volumes and Traffic Class

Traffic volume estimates are an important attribute of the road inventory. Traffic volumes are utilized during the assessment of the road to determine the correct surface type, surface width and the capacity of the road. Traffic volume is also one of the factors that are used to prioritize improvements. The existing road inventory estimates for Average Annual Daily Traffic (AADT) volumes based on the roadside environment. Roads are then classified according to the traffic volume as shown in **Table 2.2**. Where a road section did not have AADT values in the inventory record, the AADT was estimated based on the road location, platform characteristics and the traffic classifications of surrounding roads.

Table 2.2 – Traffic Classification

Traffic Class	AADT
100	0 – 49
200	50 – 199
300	200 – 499
400	500 – 999
500	1000 – 1999
600	2000 – 2999
700	3000 – 3999
800	4000 and over

2.4 Future Traffic Volumes and Traffic Class

Traffic volumes from the 2015 inventory record were extrapolated over a 10-year term, assuming a traffic growth rate of 2% per year to obtain future traffic volumes. These future volumes were used to assess the need for structural improvements, capacity improvements and surface type improvements. The future AADT is shown for each road section in the Inventory Table in **Appendix A**. A summary of the road inventory by traffic class is provided in the table below.

Table 2.4.1 – Traffic Classification

Traffic Class	Total Length (km)
100	59.2
200	41.2
300	47.0
400	8.5
500	0.1
600 and above	2.0

3.0 Road System Assessment

3.1 Road Appraisal Criteria

Each section of road was evaluated in accordance with the rating system in the *Municipal Road Inventory Manual*. The following individual elements were assessed given a rating; the maximum available rating for each element is shown below.

- Surface Condition (10 points)
- Structural Adequacy (20 points)
- Drainage (15 points)
- Maintenance Demand (10 points)
- Horizontal Alignment (10 points)
- Vertical Alignment (10 points)
- Surface Width (15 points)
- Shoulder Width (10 points)

Horizontal and Vertical Alignment
The horizontal and vertical alignment for each road section is assessed based on the design speed for that section and the minimum requirements for curve radius etc. Points are deducted from the maximum point total based on the number of deficient curves on a section of road.

For the purpose of this report, horizontal and vertical alignment values were set to 10 points so that an accurate comparison of the Total Rating could be determined, based upon the remaining characteristics of each road sections.

Surface Condition
The condition of the surface of the road is assessed based on visual observations of the surface, ride comfort, ride quality and safety. Points are deducted from the maximum available based on the number and severity of deficiencies. Examples of deficiencies for hard surfaces are raveling, potholes and cracking. Deficiencies identified for gravel surfaces are those which cannot be corrected by grading including subgrade failure and inadequate gravel surface.

Shoulder and Surface Width
The shoulder and surface width are assessed by comparing the existing measured widths to the design standard widths for the design class of road. A maximum score is given to a road with shoulder and surface widths that meet or exceed the desirable widths for that design class. The minimum score is assessed based on the Minimum tolerable standard.

Structural Adequacy
The structural adequacy rating relates to the capability of the surface and base to support the intended traffic loading and resist base failure or distortion. Points are deducted from

the maximum available rating based on the number and frequency of distresses noted in the road. Examples of distresses in hard top surfaces include rutting, alligator cracking, distortions and severe potholes. For gravel roads, examples of distresses include frost boils and soft spots.

Drainage
Drainage is assessed based on visual observations of the various drainage elements for each road section. These include lane and shoulder crossfall, ditch depth and slope, culverts, catchbasins and/or gutter outlets. The presence and condition of each of these elements is assessed and ratings are provided based on a sliding scale with maximum points if all elements are present and adequate to minimum points if no drainage elements are present.

Maintenance Demand
The rating for maintenance demand is inversely related to the actual level of maintenance intervention required for a section of road. If the road is in good condition and requires little maintenance, it will have a high maintenance demand score. Conversely if a road is in poor condition and requires significant maintenance, it will receive a low rating. The maintenance effort is estimated based on visual observations during the inspection.

Overall Condition Rating
The individual ratings for each of the evaluation criteria are summed to obtain an overall rating for each road section, with a maximum value of 100. The overall rating is a general indicator of condition of the road; a higher rating indicates better condition.

3.2 Road Standards

Road standards play an important role in assessing the need for improvements. Roads with surface widths or surface types that do not meet current or future traffic demands receive a higher priority for improvements. The following table outlines the desirable standard for each road class:

Table 3.1 – Road Standards

Traffic Class	Surface Type	Surface Width	Shoulder Width
100	Gravel	5.5	0.5
200	Gravel	6.0	0.5
300	LCB	6.0	1
400	LCB	6.0	1
500	HCB	6.5	1.5
Semi-Urban Local	HCB	6.0	1.5
Urban Local	HCB	8.0	N.A.

These represent the desirable standards for roads and would be the expectation if roads were reconstructed based on their traffic class. However, it is recognized that many existing roads in the Township, particularly lower class roads, do not meet these criteria and it would be cost-prohibitive to recommend reconstruction of these roads. In these instances, where road capacity is not an issue, improvements are identified to the current asset dimensions, recognizing that the roads function adequately despite not meeting the desirable standard.

3.3 Road Network Condition

The overall condition ratings for each road section were calculated in MDW as outlined in Section 3.1 and form part of the asset record in MDW. The condition data was exported for analysis as part of this study and the tables in **Appendix B** provide a complete summary of the condition ratings of each road section sorted by section number.

The **weighted average rating for the entire road network is 67**. The weighted average rating by road surface type is summarized below:

Gravel	**62**
Surface Treated	**71**
Hot Mix Asphalt	**79**

In reviewing the average condition rating values, the following observations were made:

1. The hot mix asphalt rating is relatively high and reflects the asphalt resurfacing on several streets in Havelock in recent years which are in good overall condition.
2. The relatively low condition rating for gravel roads is primarily a reflection of the number of gravel roads which have below standard surface width. However, there are also several gravel roads which require rehabilitation through additional gravel placement to strengthen the road base.
3. The condition rating for surface treated roads reflects a network that is on the cusp of decline. Once condition ratings drop below 70, road needs typically increase beyond basic resurfacing and require rehabilitation or reconstruction. Having a large percentage of the road network in this condition range is indicative of inadequate funding to keep pace with the declining condition of these roads.

Table 3.2 provides a summary of the condition rating ranges within the road network by road length and percentage of the network. The table indicates **35% of the network is at or above a condition rating of 70**. In this condition rating range, the majority of roads require only resurfacing which is the least expensive type of improvement. Two other important observations can be made from the table. First, **21% of the roads in the network fall within a critical range of 70-79**. Roads within that range can be maintained in good condition with relatively inexpensive treatments including resurfacing and preventative maintenance. However, if these roads are not addressed in a timely manner, their condition will deteriorate and will fall into the range requiring more costly rehabilitation treatments. Second, **55% of the roads have condition ratings between 50-69 and require rehabilitation or reconstruction to improve their condition**. Having a large percentage of the network in this range indicates that there is inadequate funding to address all road needs in a timely manner. Improving roads within this range will have a significant impact on Township budgets as rehabilitation is a costlier treatment than resurfacing.

Table 3.2 – Condition Rating Road Network

Condition Rating Range	Road Length (km)	Percent of Network
90 – 100	1.2	0.8
80 – 89	21	13.5
70 – 79	33	21
60 – 69	58	37
50 – 59	30	19
< 50	14	9

4.0 Road Needs and Improvements

4.1 Identification of Needs

The need to improve an individual road section was determined based on both the physical condition rating of the road and any functional deficiencies. Functional needs were identified by comparing the road condition and physical characteristics such as surface type and width to the desirable standard for that road class. Although each section was assessed from a number of perspectives (structural adequacy, drainage, surface condition and width etc.) not all elements are considered in determining road needs. For example, while horizontal and vertical alignment are assessed, they are not considered in identifying improvements unless a safety issue is present, as improving these deficiencies would place an unrealistic financial burden on the Township. The primary indicators of need that are used to determine road needs are summarized below:

Surface Condition	Inability to provide comfortable or safe ride
Surface Type	Incorrect surface type for traffic volume
Surface Width	Inadequate surface width compared to standard
Structural Adequacy	Inability to provide adequate support for traffic load

Further it is noted that rural road sections with a gravel surface and AADT of 50 or less have not been considered for any improvements. These roads can be maintained to an adequate standard with routine maintenance practices.

4.2 Improvement Types

The type of improvement identified for a given road section depends on the type and severity of the deficiencies present in the road. Improvements are grouped into categories depending on the extent of improvement required. **Table 4.1** below summarizes the categories and specific improvements, along with typical deficiencies:

Table 4.1 – Improvement Types

Road Needs	Improvement Type	Deficiency
Resurfacing	• None • Double surface treatment • Mill and pave – urban • Overlay - rural	Surface Condition and /or Surface Type
Rehabilitation	• Add gravel, ditch, brush • Pulverize, add gravel, double Surface treatment • Pulverize and pave	Surface Condition and Minor Structural Adequacy
Reconstruction	• Rural recon – gravel only • Rural Reconstruction • Urban reconstruction	Surface Width, Condition and Severe Structural Adequacy

4.2.1 Resurfacing

These treatments involve renewing the hard-top surface and are generally undertaken on roads that are structurally sound (good granular base) but are past the point where preventative maintenance treatments will be effective. Typical resurfacing treatments include surface treatment, asphalt overlay and mill and pave for hard top surfaces. Resurfacing of loose-top surfaces such as gravel roads is done by grading the road and is considered routine maintenance.

4.2.2 Rehabilitation

These treatments involve renewing both the surface and upper layer of the road base and are generally undertaken on roads that exhibit distress associated with minor base failure. Typically, the existing surface and a portion of the base material is pulverized and a new surface applied. Where the base failure is significant, additional granular material will be added to the base prior to placement of the pavement. Where poor soils exist, base stabilizing agents can be applied to the pulverized material prior to placement of the pavement to strengthen the base.

4.2.3 Reconstruction

Reconstruction involves the removal and replacement of the road including granular base and surface. In rural settings it includes renewing the ditching and shoulder widening, and replacement of cross culverts. In urban settings, reconstruction includes complete urbanization of the street including storm sewers, curb and gutter and sidewalks. Reconstruction is the costliest treatment and is applied once a road has reached the end of its lifecycle. Because of the high cost and the fact that the treatment is not time-sensitive (if reconstruction is required, the road has already reached the end of its service life) these

treatments are often deferred to free up budgets for higher-value treatments such as resurfacing.

4.3 Gravel Needs and Improvements

Many of the gravel roads within the Municipality's network were identified for gravel maintenance only; no major capital improvements are required on these roads. Many of these roads have an AADT of less than 50 and are by default considered adequate according to the Inventory Manual.

Gravel maintenance consists of routine grading to restore the surface and cross section, adding granular material where required and application of dust suppressants to tighten the surface, retain aggregate and reduce dust.

4.3.1 Returning Hard Surfaced Roads to Gravel

Turning low volume surface treated roads that are at the end of their useful life back to gravel roads is an alternative that could be considered by the Township as a means to reduce capital construction costs. Often gravel roads can be maintained in better condition than the surface treatment because it is far easier and less costly to grade the gravel roads than to pulverize and surface treat them.

Hard surfaced roads may also be turned back to gravel if the road is in poor condition and requires extensive maintenance but is not scheduled for improvement for several years. In this case the road would be turned to gravel and maintained as a gravel road until the recommended improvement of a hard surface was implemented. This will reduce the maintenance costs to the Township as well as reduce liability associated with a surface treated road in poor condition.

It is recommended that the Township develop a policy regarding when it is appropriate to return a hard-surfaced road back to gravel. This will provide guidance for staff and transparency for Council and public when selecting candidate sections.

4.4 Improvement Costs

Benchmark construction costs were established for each improvement type to calculate the cost of improvements for each road section. The benchmark costs were established using tender unit prices from recent contracts for routine work including surface treatment, resurfacing and pulverizing. The improvement costs are for construction and include contingency and engineering where required. They do not include any utility relocation or property acquisition.

Appendix F includes a summary of the benchmark costs used for each improvement type.

4.5 Improvement Timing

For each identified road section deficiency, the time of need was identified as either Now, 1-5 years or 6-10 years. The time of need is based on the condition of the road and state of deterioration. Roads that are currently in very poor condition receive a Now time of need.

However, roads that are in fair condition may also receive a Now time of need if implementing the improvement in the near term would defer a more expensive treatment later in the roads life. For example, a surface treated road that is in fair condition could be kept in that condition with an application of double surface treatment in the near term. However, if that same road were left for several years, it would deteriorate to the point that it required pulverization and double surface treatment. In this case, implementing the improvement sooner will result in a lower-cost improvement and reduce the life cycle cost for that road section.

4.6 Summary of Needs and Improvements

A complete listing of road needs, recommended improvements and associated costs sorted by Section number is included in **Appendix B**. Where no improvement is listed, none was identified. The table below provides a summary of the capital needs and improvement costs by kilometer of road:

Table 4.2 – Summary of Road Needs and Improvement Costs

Road Needs	Road Length (km)	Cost
Resurfacing	38	$2.5M
Rehabilitation	88	$7.6M
Reconstruction	14	$3.1M
TOTAL	**140 km**	**$13.2M**

The improvement costs by time of need are summarized below:

Now	**$ 6.5 M**
1 – 5 Years	**$ 6.8 M**
6 – 10 Years	**$ 0.9 M**

5.0 Priorities and Recommendations

5.1 Prioritization of Improvements

Two methodologies were utilized to prioritize the recommended improvements to aid the Municipality in selecting the order in which to implement the projects. Prioritization of projects was also required to develop recommended Capital Expenditure Plans, as the Municipality's budget is insufficient to fund all the identified needs.

Condition Priority Ranking

This is an empirical approach set out in the *Inventory Manual for Municipal Roads*. It considers the existing condition of the road section but also the traffic volumes on that road. Roads with the same condition rating are prioritized based on traffic volume, with a higher priority assigned to the road with the higher volume. This rating system assigns a higher priority to roads with lower condition ratings. In that respect, it is a worst-first approach and

does not necessarily make the best use of scarce municipal resources as it does not account for the life cycle cost of the improvements.

The formula used is: $Priority = 0.2\ (100\text{-}Condition\ Rating) \times (AADT+40)^{0.25}$

A larger priority number indicates a higher priority ranking.

The resulting Condition Priority Rankings are summarized in **Appendix C**.

5.2 Recommended Improvement Plans

Recommended improvement plans for Resurfacing, Rehabilitation and Reconstruction were developed using the condition prioritization method. The plans list the road section, recommended improvements, improvement costs and are in order of Priority Guide Number. Only road sections with a Time of Need of Now or 1-5 Years were included in the prioritization process as, even with this limitation, the required capital expenditures will exceed the available municipal budgets.

The recommended improvement plans for Resurfacing, Rehabilitation and Reconstruction are included in **Appendix D**.

5.3 Recommended 5-Year Capital Expenditure Plan

Using the recommended improvement plans for resurfacing and rehabilitation projects, a recommended 5-Year Capital Expenditure plan was created. This plan was prepared to assist the Municipality in planning and budgeting for road improvements over the next five years. The plan is included in **Appendix E**.

In preparing the recommended 5-Year Capital Plan, the total annual expenditures were constrained (as closely as possible) by the current baseline roads funding level of $700,000. This projected value was taken from the HBM Asset Management Plan, June 2020. If additional funds are available, projects can be brought forward from future years to make use of available funds and replaced with projects using the prioritized improvement plans in **Appendix C**.

5.4 Recommended Funding Levels

The previous section identified an annual plan for the next five years with the annual expenditures constrained by the current Municipal roads budget. This section will identify the recommended funding levels to maintain the road network in adequate condition.

Hot Mix Paved Roads

- Total of 10 km of paved roads
- Life cycle of approximately 12 years
- Required annual resurfacing of 0.83 km
- Required annual budget of $116,200 (0.83 km x $140,000 for overlay)

Surface Treated Roads

- Total of 65 km of surface treated roads
- Life cycle of approximately 6 years for surface treatment
- Required annual resurfacing of 10.8 km
- Required annual budget of $704,166 (10.8 km x $65,000/km for double surface treatment

Gravel Roads

Gravel roads can generally be kept in good condition with regular maintenance including grading, minor addition of granular and application of calcium chloride. These items are typically included in maintenance budgets. However, gravel roads typically require the addition of a significant lift of granular over their surface to maintain sufficient base strength.

- Total of 83 km of gravel roads requiring new lift every 20 years
- Required annual granular placement 4 km
- Required annual budget of $160,000 (4 km x $40,000/km for granular placement)

The total recommended funding levels for capital work for is $980,000. This amount is approximately $280,000 or 29% higher than the existing capital roads budget.

Appendix A: Road Inventory Summary

HBM 2020 Road Needs Study
Road Inventory by Section Number

Section Number	Road Name	From/To	Traffic Class	Maint. Class	Speed Limit (km/h)	Surface Type	Length (km)	Platform Width (m)	Roadside Environment	Shoulder Width (m)	Surface Width (m)	AADT (2025)
01B	1st Line	Boundary Rd. to Hwy. 7	100	6	80	G	1.000	7	Rural	0.5	6	49
01H	Old Norwood Rd	End of C & G to County Rd. 30	200	5	60	LCB	0.110	6.2	Urban	0	6.2	183
02B	Terrace Road	Hwy 7 to North End	200	4	80	G	0.800	7	Rural	0.5	6	154
02H	Old Norwood Rd	Municipal Well Entrance to County Rd. 30	200	5	60	LCB	1.335	7.5	Rural	0.7	6.1	183
03B	Blairton Rd	Hwy 7 North to Cole Rd.	300	5	50	LCB	1.100	7.5	Semi-Urban	0.5	6.5	480
03H	Pomeroy Dr	County Rd. 30 to dead end	100	6	50	HCB	0.080	6	Semi-Urban	0	6	24
04B	Blairton Rd	Cole Rd N 0.8km	300	5	50	LCB	0.900	7.2	Semi-Urban	0.5	6.2	305
04H	Princess St	County Rd 30 to dead end	100	6	50	HCB	0.110	9	Semi-Urban	1	7	24
05B	Blairton Rd	0.8km North of Cole Rd.	100	6	50	G	1.300	6.5	Rural	0.5	5.5	49
05H	Mclean Ave	County Rd 46 to Union St.	300	5	50	HCB	0.405	6.3	Urban	0	6.5	305
06B	Blairton Tent & Trailer Park Rd	Blairton Road to dead end	300	5	50	LCB	0.300	7.6	Semi-Urban	0.8	6	204
06H	Donald St	County Rd. 46 to Union St.	200	5	50	HCB	0.375	6.4	Urban	0	6	122
07B	Queen St (Blairton)	Blairton Rd. W to dead end	100	6	50	LCB	0.100	6	Semi-Urban	0.5	5	20
07H	Alexander St	County Rd 46 to Union St.	200	5	50	HCB	0.350	11	Semi-Urban	0	11	71
08B	Blairton Rd	Hwy 7 S to dead end	100	6	80	G	0.100	5	Rural	0.5	4	10
08H(a)	Ann St 08	Ontario St to Alexander St	100	6	50	HCB	0.100	8.4	Semi-Urban	0	8.4	15
08H(b)	Ann St 08	Alexander St to Donald St	100	6	50	HCB	0.100	9.5	Urban	1.4	6	7
09B	Cole Rd	Blairton Rd W to 2nd Concession	100	6	80	G	1.500	7	Rural	0.5	6	37
09H	Union St	Ontario St to Mclean Ave	300	5	50	HCB	0.300	10.3	Urban	2	6.5	305
10B	2nd Concession Rd	County Rd 48 S to Hwy 7	400	4	60	LCB	3.000	9.3	Rural	1	7.3	702
10H	Elm St	Ottawa St (Hwy 7) to Ontario St	300	5	50	HCB	0.055	13.4	Semi-Urban	1	11.4	488
11B	2nd Concession Rd	Hwy 7 to Dewey Rd	300	4	80	G	3.100	7.5	Rural	0.75	6	219
11H	Quebec St	Ottawa St (Hwy 7) to Ontario St	500	4	50	HCB	0.050	11.4	Urban	0	11.4	1097
12B	Dewey Rd (Boundary Rd)	2nd Concession to dead end	100	6	80	G	0.770	6	Rural	0.5	5	34
12H	Quebec St	George St to Mathison St	400	4	50	HCB	0.100	11.5	Urban	0	6	609
13B	3rd Concession Rd	Hwy 7 N to County Rd 48	200	5	60	LCB	2.830	6.2	Rural	0.25	5.7	158
14B	Mile Of Memories	Conty Road 48 to Belmont Lake	300	5	60	LCB	1.900	6.2	Rural	0.25	5.7	295
14H	Victoria St	George St to King St	300	5	50	HCB	0.200	9	Urban	1	6	305
15B	5th Concession Rd	County Rd 48 S to dead end	100	6	80	G	0.330	6.1	Rural	0.5	5.1	5
15H	Orange St	Ottawa St to George St	100	6	50	HCB	0.100	13.3	Semi-Urban	3	7.3	15
16B	Sawmill Bay	County Rd 48 N to dead end at FR30	200	4	80	LCB	0.700	8.1	Rural	1	6.1	122
16H	Park St	George St to Mathison St	200	5	50	HCB	0.100	11.5	Semi-Urban	0	11.5	122
17B	4th Concession Rd	Hwy 7 to Concession allowance	200	4	80	G	2.300	7.5	Rural	0.75	6	138
17H(A)	Mathison St E	William St to E dead end	100	6	50	HCB	0.109	9.7	Semi-Urban	1	7.7	49
17H(B)	Mathison St E	William St to Park St	200	5	50	HCB	0.131	7	Semi-Urban	0	7	183
17H(C)	Mathison St E	W dead end (Arena) to Park St	100	6	50	HCB	0.110	11.4	Semi-Urban	0	11.4	34
18B	4th Concession Rd	2.3km S of Hwy 7 to Seymour Twp. Boundary	200	6	50	G	1.000	6.2	Rural	0.5	5.2	55
18H	William St	Ottawa St (Hwy 7) to Mathison St E	200	5	50	HCB	0.210	12.5	Semi-Urban	3	6.5	183
19B	Trent River Rd	County Rd 50 to 7th Concession Rd	300	5	50	LCB	2.520	7.5	Rural	0.25	7	305
19H	William St	Mathison St E to north turn-around	200	5	50	HCB	0.220	7	Semi-Urban	0	7	88
20B	7th Concession Rd	Seymour Tsp. Boundary to Hwy 7	400	4	60	LCB	3.160	7.7	Rural	0.7	6.3	762
20H	Mary St	George St N to dead end	100	6	50	HCB	0.360	7	Semi-Urban	0	7	29
21H	Industrial Dr	Mary St to Rotary Park	300	5	50	HCB	0.450	6.8	Rural	0.25	6.3	488
22B	6th Concession Rd	Hwy 7 to dead end	200	6	40	G	1.640	7	Rural	0.5	6	59
22H	Mary St	Ottawa St (Hwy 7) to S Ward boundary	400	5	40	HCB	0.170	7.3	Semi-Urban	0.5	6.3	590
23B	6th Concession Rd	Hwy 7 N to County Rd 48	400	5	60	HCB	1.700	7.8	Rural	0.8	6.2	589
23H	Mathison St	Victoria St to Union St	200	5	50	HCB	0.450	10.2	Semi-Urban	1.7	6	122

HBM 2020 Road Needs Study
Road Inventory by Section Number

Section Number	Road Name	From/To	Traffic Class	Maint. Class	Speed Limit (km/h)	Surface Type	Length (km)	Platform Width (m)	Roadside Environment	Shoulder Width (m)	Surface Width (m)	AADT (2025)
24B	7th Concession Rd	County Rd 48 to 1.2km N of County Rd 48	200	4	80	G	1.220	6.3	Rural	0.5	5.3	73
24H	King St	Union St to dead end at Arena Park	300	5	50	HCB	0.550	14.5	Urban	N/A	6	305
25H(a)	Oak St	George St to King St	400	5	50	HCB	0.210	7	Urban	N/A	7	549
25H(b)	Oak St	Ottawa St (Hwy 7) to George St	400	5	50	HCB	0.110	7	Urban	N/A	7	457
26B	Weller Rd	County Rd 48 to Hwy 7	200	4	80	G	0.600	7.5	Rural	0.75	6	91
26H	Ottawa St	West Connecting Link limit to start of C & G	800	3	50	HCB	0.220	16	Rural	3	10	9752
27B	Weller Rd	Hwy 7 S to Concession Rd 8	200	4	80	G	0.515	7	Rural	0.5	6	87
27H	Ottawa St	Start of C & G to 260m East (pavement joint)	800	3	50	HCB	0.260	11.8	Urban	N/A	11.8	9752
28B	8th Concession Rd	Hav S. Ward boundary to Old Norwood Rd	300	5	60	HCB	0.330	7.4	Semi-Urban	0.7	6	305
28H	Ottawa St	260m East (pavement joint) to East Connecting Link limit	800	3	50	HCB	1.520	10	Urban	N/A	10	9752
29B	8th Concession Rd	Old Norwood Rd to 0.8km S of Old Norwood Rd	200	5	60	LCB	1.800	7.3	Rural	0.5	6.3	183
29H	Mill Ln	Ottawa St to George St	100	6	50	HCB	0.100	4.8	Semi-Urban	0	4.8	22
30B	8th Concession Rd	0.8km S of Old Norwood Rd to Brown's Line	200	5	60	LCB	2.250	8	Rural	0.25	7.5	183
30H	Smith Drive	County Road 30 to dead end	100	6	80	HCB	0.250	9	Urban	0.5	8	12
31B(a)	Browns Line	8th Concession Rd to County Rd 30	200	5	60	LCB	1.510	9.2	Rural	0.8	7.6	183
32B	10th Concession Rd	County Rd 42 to Old Norwood Rd	200	6	80	G	3.100	8.2	Rural	1.1	6	55
33B	Old Norwood Rd	East of 8th Concession to Municpal well entrance	200	5	60	LCB	0.260	7.7	Rural	0.8	6.1	183
34B(a)	Old Norwood Rd	Concession 10 to Concession 11	200	4	80	LCB	1.440	7.7	Rural	0.8	6.1	183
34B(b)	Old Norwood Rd	Hwy 30 to Concession 10	200	4	80	LCB	1.290	7.3	Rural	0.5	6.3	183
35B (a)	11th Concession Rd	Old Norwood Road to Hwy 7	300	4	80	LCB	0.200	8	Rural	1	6	229
35B (b)	11th Concession Rd	County Rd 42 to Old Norwood Rd	100	6	80	G	3.200	8	Rural	1	6	49
36B	11th Concession Rd	Hwy 7 to North School Rd	300	4	80	LCB	1.500	8.8	Rural	1.4	6	475
37B(a)	North School Rd	2.4km E of Baker Rd to County Rd 46 (C9 L13)	100	6	60	LCB	0.890	7.1	Rural	0.5	6.1	44
37B(b)	North School Rd	Dummer twp boundary to Baker Rd	200	5	60	LCB	1.400	7.5	Rural	0.5	6.5	122
37B(c)	North School Rd	Baker Rd to 2.4km east of Baker Rd	300	5	60	LCB	2.400	6.5	Rural	0.25	6	305
38B	Menzies Rd	County Rd 46 E to dead end	100	6	80	G	0.310	8	Rural	1	6	15
39B(a)	Baker Rd	County Rd 46 W for 1.5km	200	5	60	LCB	1.460	6.5	Semi-Urban	0.5	5.5	183
39B(b)	Baker Rd	1.5km East of County Rd 46 to North School Rd	200	5	60	LCB	1.140	7.6	Rural	0.25	7.1	183
40B	10th Concession Rd	North School Rd to Church Rd	100	6	80	G	2.400	6.5	Rural	0.5	5.5	34
41B	10th Concession Rd	Church Road to dead end	100	6	80	G	1.900	6.5	Rural	0.5	5.5	34
42B(A)	Church Rd	County Rd 46 to East of County Rd 44	100	6	80	G	1.530	6.5	Rural	0.5	5.5	55
42B(B)	Church Rd	County Rd 44 to train tracks	100	6	80	LCB	0.170	7	Rural	0.5	6	55
42B(C)	Church Rd	10th Concession Rd to train tracks	100	6	80	G	1.180	6.5	Rural	0.5	5.5	55
44B	Hubble Rd	County Rd 44 N junction to S junction	100	6	80	G	4.550	4.5	Rural	0.5	3.5	12
45B	Anderson Rd	County Rd 46 S to dead end	200	5	60	LCB	2.850	7.3	Rural	0.5	6.3	88
46B	Round Lake Rd	County Rd 46 to 3km East of County Rd 46	300	5	60	LCB	3.800	9.3	Rural	1	7.3	482
47B	N Belmont 7th Line	Round Lake Rd to dead end	100	6	80	G	0.200	7	Rural	0.5	6	56
48B (A)	Burnt Dam Rd	Sugar Bush Rd to Preston Rd	200	4	80	LCB	0.460	7.1	Rural	0.5	6.1	146
48B (B)	Burnt Dam Rd	Sugar Bush Rd to dead end	100	6	80	G	1.500	6.7	Rural	0.5	5.7	39
49B	Sugar Bush Lane	Burnt Dam Rd N to dead end	200	6	80	G	0.440	7	Semi-Urban	0.5	6	59
50B	6th Concession Rd	Burnt Dam Rd/Preston Rd S to County Rd 48	300	5	60	LCB	4.930	8.1	Rural	0.5	7.1	482
51B	Bowen Rd	County Rd 48 S & E to Crowe River	100	6	80	G	4.400	5.5	Rural	0.5	4.5	39
52B	Van Sickle Rd	County Road 48 N to FR 59 (N of Cordova Lk)	300	4	70	LCB	7.000	8.5	Rural	1	6.5	305
53B	Vansickle Rd	FR 59 (N end of Cordova Lk N) to dead end	100	6	70	G	3.400	4.5	Rural	0.5	3.5	49
54B1	Streets A,B&C Cordova	County Rd 48 S to dead end	100	6	50	HCB	0.300	5.4	Rural	0	5.4	24
54B2	Street B To Ball Park	County Rd 48 S to dead end	100	6	50	HCB	0.200	4.7	Semi-Urban	0	4.7	24
55B	1st Concession Rd	County Rd 48 N to dead end	100	6	80	G	0.940	5.8	Rural	0.5	4.8	34

HBM 2020 Road Needs Study
Road Inventory by Section Number

Section Number	Road Name	From/To	Traffic Class	Maint. Class	Speed Limit (km/h)	Surface Type	Length (km)	Platform Width (m)	Roadside Environment	Shoulder Width (m)	Surface Width (m)	AADT (2025)
56B (a)	Preston Rd	East of 6th Line to 6th Line	300	5	60	LCB	0.435	7.7	Rural	0.25	7.2	305
56B(b)	Preston Rd	W of County Rd 48 to E of 6th Line	300	5	60	LCB	0.350	8.2	Rural	0.7	6.8	305
56B(c)	Preston Rd	County Rd 48 S to W of County Rd 48	300	5	60	LCB	6.100	6.6	Rural	0.25	6.1	305
57B	Preston Rd Extension To Fr 23	Preston Rd S to dead end	200	5	60	LCB	0.150	6.3	Rural	0.5	5.3	180
59B	Fire Rd 25	Preston Road S to dead end	200	6	80	G	0.300	7.8	Rural	0.9	6	59
59M	Devils 4 Mile Rd	County Rd 46 to Vansickle Rd	100	6	80	G	7.400	4.5	Rural	0.5	3.5	12
60M	Vansickle Trail	County Rd 46 to dead end	100	6	80	G	0.570	5.5	Rural	0.5	4.5	20
61M	Post Road	County Rd 46 N to dead end at Oak Lk	100	6	60	LCB	0.500	6.3	Rural	0.5	5.3	39
62M	East Posts Rd	Posts Rd E to County Rd 46	100	6	80	LCB	0.260	7	Rural	0.25	6.5	5
64M	Shady Lane Rd	Jack Lk Rd to end (at Millers)	300	4	80	LCB	1.300	9.2	Rural	1.1	7	274
65M	West Kosh Rd	County Rd 6 N to dead end (Kosh Lk)	300	4	80	G	4.500	9.2	Rural	1.6	6	424
66M	Holdcroft Rd	West Kosh Rd to dead end (Kosh Lk)	100	6	80	G	0.500	6	Rural	0.5	5	24
67M(a)	Stoney Point Rd	1.1km from West Kosh to end at Marina	200	5	40	G	0.900	7	Rural	0.5	6	183
67M(b)	Stoney Point Rd	West Kosh Rd to 1.1km from West Kosh	300	4	80	G	1.100	9	Rural	1.5	6	244
69M	Blue Mountain Rd	West Kosh Rd to dead end (Kosh Lk)	100	6	80	G	0.600	7.8	Rural	0.9	6	34
70M	Unimin Road	County Rd 46 to mine	300	4	80	LCB	1.300	9.5	Rural	1.5	6.5	305
71M	North Shore Rd	County Rd 46 to dead end at Kosh Lk	200	4	80	G	2.100	9	Rural	1.5	6	183
72M	Penninsula Rd	North Shore Rd to FR 80d	200	4	80	G	3.500	6.1	Rural	0.5	5.1	122
73M	Clare Newnhams Rd	County Rd 46 to dead end	100	6	80	G	1.500	4.8	Rural	0.5	3.8	20
74M	Sandy Lake Rd	County Rd 46 N to County Rd 46 Twin Lakes	100	6	80	G	11.100	6	Rural	0.5	5	24
75M	Tangamong Rd	Sandy Lake Rd to dead end at lake	100	6	80	G	3.400	5.5	Rural	0.5	4.5	12

Appendix B: Road Condition Rating and Needs Summary

HBM 2020 Road Needs Study
Road Condition Rating and Needs by Section Number

Section Number	Road Name	From/To	Traffic Class	Maint. Class	Speed Limit (km/h)	Surface Type	Length (km)	Drainage (15)	Horiz Alignment (10)	Mtce Demand (10)	Shoulder Width (10)	Structural Adequacy (20)	Surface Condition (10)	Surface Width (15)	Vertical Alignment (10)	Total Rating	Recommended Improvement	Need	Time of Need	Service Life	Improvement Unit Cost	Improvement Cost	Condition Priority
01B	1st Line	Boundary Rd. to Hwy. 7	100	6	80	G	1.000	8	10	7	1	12	7	1	10	56	Add gravel; ditching; brushing	Rehabilitation	1-5	10	10.00	77000.00	26
01H	Old Norwood Rd	End of C & G to County Rd. 30	200	5	60	LCB	0.110	11	10	6	1	12	6	15	10	71	Double surface treatment	Resurface	Now	10	8.00	6001.60	22
02B	Terrace Road	Hwy 7 to North End	200	4	80	G	0.800	8	10	7	1	12	7	1	10	56	Add gravel; ditching; brushing	Rehabilitation	1-5	10	10.00	61600.00	32
02H	Old Norwood Rd	Municipal Well Entrance to County Rd. 30	200	5	60	LCB	1.335	11	10	7	10	12	7	15	10	82	Double surface treatment	Resurface	6-10	10	8.00	88110.00	13
03B	Blairton Rd	Hwy 7 North to Cole Rd.	300	5	50	LCB	1.100	12	10	8	1	16	8	15	10	80	Double surface treatment	Resurface	1-5	10	8.00	72600.00	18
03H	Pomeroy Dr	County Rd. 30 to dead end	100	6	50	HCB	0.080	10	10	7	1	12	6	15	10	71	Mill and pave - urban overlay - rural	Resurface	Now	15	23.00	12144.00	16
04B	Blairton Rd	Cole Rd N 0.8km	300	5	50	LCB	0.900	11	10	6	1	14	7	15	10	74	Double surface treatment	Resurface	Now	10	8.00	57024.00	21
04H	Princess St	County Rd 30 to dead end	100	6	50	HCB	0.110	10	10	8	10	14	8	15	10	85	Mill and pave - urban overlay - rural	Resurface	6-10	15	17.00	18513.00	8
05B	Blairton Rd	0.8km North of Cole Rd.	100	6	50	G	1.300	8	10	6	1	12	7	1	10	55	Add gravel; ditching; brushing	Rehabilitation	Now	10	10.00	92950.00	27
05H	Mclean Ave	County Rd 46 to Union St.	300	5	50	HCB	0.405	14	10	9	1	19	9	15	10	87	Mill and pave - urban overlay - rural	Resurface	10+	15	23.00	64552.95	11
06B	Blairton Tent & Trailer Park Rd	Blairton Road to dead end	300	5	50	LCB	0.300	12	10	8	10	16	8	15	10	89	Double surface treatment	Resurface	10+	10	8.00	20064.00	8
06H	Donald St	County Rd. 46 to Union St.	200	5	50	HCB	0.375	14	10	9	1	19	9	15	10	87	Mill and pave - urban overlay - rural	Resurface	10+	15	23.00	60720.00	9
07B	Queen St (Blairton)	Blairton Rd. W to dead end	100	6	50	LCB	0.100	8	10	6	1	12	7	1	10	55	Pulverize; add gravel; double surface treatment	Rehabilitation	Now	10	12.00	7920.00	25
07H	Alexander St	County Rd 46 to Union St.	200	5	50	HCB	0.350	8	10	4	1	10	5	15	10	63	Pulverize and pave	Rehabilitation	1-5	20	27.00	114345.00	23
08B	Blairton Rd	Hwy 7 S to dead end	100	6	80	G	0.100	8	10	7	1	14	7	1	10	58	Add gravel; ditching; brushing	Rehabilitation	1-5	10	10.00	5500.00	22
08H(a)	Ann St 08	Ontario St to Alexander St	100	6	50	HCB	0.100	12	10	8	1	16	8	15	10	80	Mill and pave - urban overlay - rural	Resurface	1-5	15	17.00	15708.00	11
08H(b)	Ann St 08	Alexander St to Donald St	100	6	50	HCB	0.100	12	10	8	10	19	8	15	10	92	Mill and pave - urban overlay - rural	Resurface	10+	15	23.00	24035.00	4
09B	Cole Rd	Blairton Rd W to 2nd Concession	100	6	80	G	1.500	10	10	7	1	12	6	1	10	57	Add gravel; ditching; brushing	Rehabilitation	1-5	10	10.00	115500.00	25
09H	Union St	Ontario St to Mclean Ave	300	5	50	HCB	0.300	14	10	9	10	19	9	15	10	96	Mill and pave - urban overlay - rural	Resurface	10+	15	23.00	78177.00	3
10B	2nd Concession Rd	County Rd 48 S to Hwy 7	400	4	60	LCB	3.000	11	10	7	10	15	8	15	10	86	Double surface treatment	Resurface	10+	10	8.00	245520.00	14
10H	Elm St	Ottawa St (Hwy 7) to Ontario St	300	5	50	HCB	0.055	8	10	7	1	12	7	15	10	70	Mill and pave - urban overlay - rural	Resurface	Now	15	23.00	18646.10	27
11B	2nd Concession Rd	Hwy 7 to Dewey Rd	300	4	80	G	3.100	6	10	5	10	9	5	1	10	56	Add gravel; ditching; brushing	Rehabilitation	1-5	10	10.00	255750.00	34
11H	Quebec St	Ottawa St (Hwy 7) to Ontario St	500	4	50	HCB	0.050	7	10	5	1	12	6	25	10	76	Mill and pave - urban overlay - rural	Resurface	1-5	20	23.00	14421.00	27
12B	Dewey Rd (Boundary Rd)	2nd Concession to dead end	100	6	80	G	0.770	6	10	5	1	7	4	1	10	44	Rural Recon - gravel only	Reconstruct	Now	20	37.00	188034.00	32
12H	Quebec St	George St to Mathison St	400	4	50	HCB	0.100	14	10	9	1	19	9	15	10	87	Mill and pave - urban overlay - rural	Resurface	10+	15	23.00	29095.00	13
13B	3rd Concession Rd	Hwy 7 N to County Rd 48	200	5	60	LCB	2.830	6	10	4	1	9	4	1	10	45	Rural Reconstruction	Reconstruct	Now	25	42.00	810625.20	40
14B	Mile Of Memories	Conty Road 48 to Belmont Lake	300	5	60	LCB	1.900	11	10	7	1	14	6	15	10	74	Double surface treatment	Resurface	Now	15	8.00	103664.00	21
14H	Victoria St	George St to King St	300	5	50	HCB	0.200	14	10	9	10	19	9	15	10	96	Mill and pave - urban overlay - rural	Resurface	10+	15	23.00	45540.00	3
15B	5th Concession Rd	County Rd 48 S to dead end	100	6	80	G	0.330	6	10	4	10	8	4	1	10	53	Add gravel; ditching; brushing	Rehabilitation	Now	20	37.00	81929.10	24
15H	Orange St	Ottawa St to George St	100	6	50	HCB	0.100	5	10	5	10	8	5	15	10	68	Pulverize and pave	Rehabilitation	1-5	20	27.00	39501.00	17
16B	Sawmill Bay	County Rd 48 N to dead end at FR30	200	4	80	LCB	0.700	6	10	4	10	8	4	1	10	53	Pulverize; add gravel; double surface treatment	Rehabilitation	Now	15	12.00	74844.00	32
16H	Park St	George St to Mathison St	200	5	50	HCB	0.100	13	10	8	10	17	8	15	10	91	Mill and pave - urban overlay - rural	Resurface	10+	15	17.00	21505.00	6
17B	4th Concession Rd	Hwy 7 to Concession allowance	200	4	80	G	2.300	10	10	6	10	10	6	1	10	63	Add gravel; ditching; brushing	Rehabilitation	1-5	10	10.00	189750.00	26
17H(A)	Mathison St E	William St to E dead end	100	6	50	HCB	0.109	10	10	7	10	17	8	15	10	87	Mill and pave - urban overlay - rural	Resurface	10+	15	17.00	19771.51	8
17H(B)	Mathison St E	William St to Park St	200	5	50	HCB	0.131	7	10	5	10	12	5	15	10	74	Mill and pave - urban overlay - rural	Resurface	Now	15	23.00	23200.10	19
17H(C)	Mathison St E	W dead end (Arena) to Park St	100	6	50	HCB	0.110	13	10	8	10	18	8	15	10	92	Mill and pave - urban overlay - rural	Resurface	10+	15	17.00	23449.80	5
18B	4th Concession Rd	2.3km S of Hwy 7 to Seymour Twp. Boundary	200	6	50	G	1.000	10	10	6	10	14	6	1	10	67	Add gravel; ditching; brushing	Rehabilitation	1-5	20	10.00	68200.00	20
18H	William St	Ottawa St (Hwy 7) to Mathison St E	200	5	50	HCB	0.210	7	10	3	10	7	5	15	10	67	Pulverize and pave	Rehabilitation	1-5	20	27.00	77962.50	25
19B	Trent River Rd	County Rd 50 to 7th Concession Rd	300	5	50	LCB	2.520	10	10	9	10	14	9	15	10	87	Double surface treatment	Resurface	10+	25	8.00	166320.00	11
19H	William St	Mathison St E to north turn-around	200	5	50	HCB	0.220	6	10	6	10	13	6	15	10	76	Mill and pave - urban overlay - rural	Resurface	1-5	15	23.00	38962.00	16
20B	7th Concession Rd	Seymour Tsp. Boundary to Hwy 7	400	4	60	LCB	3.160	14	10	9	10	18	8	1	10	80	Double surface treatment	Resurface	1-5	10	8.00	214121.60	20

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Road Condition Rating and Needs by Section Number

Section Number	Road Name	From/To	Traffic Class	Maint. Class	Speed Limit (km/h)	Surface Type	Length (km)	Drainage (15)	Horiz Alignment (10)	Mtce Demand (10)	Shoulder Width (10)	Structural Adequacy (20)	Surface Condition (10)	Surface Width (15)	Vertical Alignment (10)	Total Rating	Recommended Improvement	Need	Time of Need	Service Life	Improvement Unit Cost	Improvement Cost	Condition Priority
20H	Mary St	George St N to dead end	100	6	50	HCB	0.360	6	10	5	10	10	6	15	10	72	Mill and pave - urban overlay - rural	Resurface	Now	15	23.00	63756.00	16
21H	Industrial Dr	Mary St to Rotary Park	300	5	50	HCB	0.450	8	10	7	10	12	7	1	10	65	Pulverize and pave	Rehabilitation	1-5	20	27.00	90882.00	32
22B	6th Concession Rd	Hwy 7 to dead end	200	6	40	G	1.640	13	10	8	10	16	7	1	10	75	None	Resurface	Now	10	0.00	0.00	15
22H	Mary St	Ottawa St (Hwy 7) to S Ward boundary	400	5	40	HCB	0.170	8	10	6	10	10	6	15	10	75	Mill and pave - urban overlay - rural	Resurface	Now	15	23.00	31397.30	24
23B	6th Concession Rd	Hwy 7 N to County Rd 48	400	5	60	HCB	1.700	9	10	7	10	14	6	1	10	67	Pulverize and pave	Rehabilitation	1-5	20	27.00	393822.00	32
23H	Mathison St	Victoria St to Union St	200	5	50	HCB	0.450	14	10	9	10	19	9	15	10	96	Mill and pave - urban overlay - rural	Resurface	10+	15	17.00	85833.00	3
24B	7th Concession Rd	County Rd 48 to 1.2km N of County Rd 48	200	4	80	G	1.220	7	10	6	10	10	7	1	10	61	Add gravel; ditching; brushing	Rehabilitation	1-5	10	10.00	84546.00	25
24H	King St	Union St to dead end at Arena Park	300	5	50	HCB	0.550	14	10	9	1	19	9	15	10	87	Mill and pave - urban overlay - rural	Resurface	10+	15	23.00	201767.50	11
25H(a)	Oak St	George St to King St	400	5	50	HCB	0.210	13	10	8	1	18	8	15	10	83	Mill and pave - urban overlay - rural	Resurface	6-10	15	23.00	37191.00	16
25H(b)	Oak St	Ottawa St (Hwy 7) to George St	400	5	50	HCB	0.110	13	10	8	1	18	8	15	10	83	Mill and pave - urban overlay - rural	Resurface	6-10	15	23.00	19481.00	15
26B	Weller Rd	County Rd 48 to Hwy 7	200	4	80	G	0.600	10	10	7	10	12	6	1	10	66	Add gravel; ditching; brushing	Rehabilitation	1-5	10	10.00	49500.00	22
26H	Ottawa St	West Connecting Link limit to start of C & G	800	3	50	HCB	0.220	10	10	6	10	12	7	15	10	80	Mill and pave - urban overlay - rural	Resurface	1-5	15	23.00	89056.00	38
27B	Weller Rd	Hwy 7 S to Concession Rd 8	200	4	80	G	0.515	10	10	7	10	12	6	1	10	66	Add gravel; ditching; brushing	Rehabilitation	1-5	10	10.00	39655.00	22
27H	Ottawa St	Start of C & G to 260m East (pavement joint)	800	3	50	HCB	0.260	10	10	6	1	12	7	25	10	81	Mill and pave - urban overlay - rural	Resurface	6-10	15	23.00	77620.40	36
28B	8th Concession Rd	Hav S. Ward boundary to Old Norwood Rd	300	5	60	HCB	0.330	7	10	5	10	8	5	15	10	70	Mill and pave - urban overlay - rural	Resurface	Now	15	23.00	61782.60	25
28H	Ottawa St	260m East (pavement joint) to East Connecting Link limit	800	3	50	HCB	1.520	10	10	6	1	12	7	25	10	81	Mill and pave - urban overlay - rural	Resurface	6-10	15	23.00	384560.00	36
29B	8th Concession Rd	Old Norwood Rd to 0.8km S of Old Norwood Rd	200	5	60	LCB	1.800	8	10	6	10	12	7	1	10	64	Pulverize; add gravel; double surface treatment	Rehabilitation	1-5	15	12.00	173448.00	27
29H	Mill Ln	Ottawa St to George St	100	6	50	HCB	0.100	6	10	4	10	8	4	1	10	53	Pulverize and pave	Rehabilitation	Now	20	27.00	14256.00	26
30B	8th Concession Rd	0.8km S of Old Norwood Rd to Brown's Line	200	5	60	LCB	2.250	12	10	7	10	15	7	15	10	86	Double surface treatment	Resurface	10+	10	8.00	158400.00	10
30H	Smith Drive	County Road 30 to dead end	100	6	80	HCB	0.250	10	10	10	1	15	10	15	10	81	Mill and pave - urban overlay - rural	Resurface	6-10	20	37.00	91575.00	10
31B(a)	Browns Line	8th Concession Rd to County Rd 30	200	5	60	LCB	1.510	9	10	6	10	11	7	15	10	78	Double surface treatment	Resurface	1-5	10	8.00	122249.60	16
32B	10th Concession Rd	County Rd 42 to Old Norwood Rd	200	6	80	G	3.100	11	10	6	10	10	7	1	10	65	Add gravel; ditching; brushing	Rehabilitation	1-5	10	10.00	279620.00	21
33B	Old Norwood Rd	East of 8th Concession to Municpal well entrance	200	5	60	LCB	0.260	10	10	7	10	12	6	1	10	66	Pulverize; add gravel; double surface treatment	Rehabilitation	1-5	15	12.00	26426.40	25
34B(a)	Old Norwood Rd	Concession 10 to Concession 11	200	4	80	LCB	1.440	10	10	7	10	12	6	1	10	66	Pulverize; add gravel; double surface treatment	Rehabilitation	1-5	15	12.00	146361.60	25
34B(b)	Old Norwood Rd	Hwy 30 to Concession 10	200	4	80	LCB	1.290	10	10	7	10	12	6	1	10	66	Pulverize; add gravel; double surface treatment	Rehabilitation	1-5	15	12.00	124304.40	25
35B (a)	11th Concession Rd	Old Norwood Road to Hwy 7	300	4	80	LCB	0.200	10	10	6	10	13	7	1	10	67	Pulverize; add gravel; double surface treatment	Rehabilitation	1-5	15	12.00	21120.00	26
35B (b)	11th Concession Rd	County Rd 42 to Old Norwood Rd	100	6	80	G	3.200	10	10	6	10	13	7	1	10	67	Add gravel; ditching; brushing	Rehabilitation	1-5	10	10.00	281600.00	20
36B	11th Concession Rd	Hwy 7 to North School Rd	300	4	80	LCB	1.500	10	10	6	10	13	6	1	10	66	Pulverize; add gravel; double surface treatment	Rehabilitation	1-5	15	12.00	174240.00	31
37B(a)	North School Rd	2.4km E of Baker Rd to County Rd 46 (C9 L13)	100	6	60	LCB	0.890	12	10	7	10	15	8	1	10	73	Double surface treatment	Resurface	Now	10	8.00	55607.20	16
37B(b)	North School Rd	Dummer twp boundary to Baker Rd	200	5	60	LCB	1.400	7	10	4	10	10	4	1	10	56	Pulverize; add gravel; double surface treatment	Rehabilitation	1-5	15	12.00	138600.00	30
37B(c)	North School Rd	Baker Rd to 2.4km east of Baker Rd	300	5	60	LCB	2.400	12	10	7	10	15	8	1	10	73	Double surface treatment	Resurface	Now	10	8.00	137280.00	22
38B	Menzies Rd	County Rd 46 E to dead end	100	6	80	G	0.310	12	10	8	10	16	8	1	10	75	None	Resurface	Now	10	0.00	0.00	13
39B(a)	Baker Rd	County Rd 46 W for 1.5km	200	5	60	LCB	1.460	12	10	6	10	12	6	8	10	74	Double surface treatment	Resurface	Now	10	8.00	83512.00	19
39B(b)	Baker Rd	1.5km East of County Rd 46 to North School Rd	200	5	60	LCB	1.140	12	10	6	10	12	6	15	10	81	Double surface treatment	Resurface	6-10	10	8.00	76243.20	14
40B	10th Concession Rd	North School Rd to Church Rd	100	6	80	G	2.400	10	10	5	10	12	6	1	10	64	Add gravel; ditching; brushing	Rehabilitation	1-5	10	10.00	171600.00	21
41B	10th Concession Rd	Church Road to dead end	100	6	80	G	1.900	10	10	5	10	12	6	1	10	64	Add gravel; ditching; brushing	Rehabilitation	1-5	10	10.00	135850.00	21
42B(A)	Church Rd	County Rd 46 to East of County Rd 44	100	6	80	G	1.530	10	10	6	10	12	6	1	10	65	Add gravel; ditching; brushing	Rehabilitation	1-5	10	10.00	109395.00	21
42B(B)	Church Rd	County Rd 44 to train tracks	100	6	80	LCB	0.170	10	10	6	10	12	6	1	10	65	Pulverize; add gravel; double surface treatment	Rehabilitation	1-5	15	12.00	15708.00	21
42B(C)	Church Rd	10th Concession Rd to train tracks	100	6	80	G	1.180	10	10	6	10	12	6	1	10	65	Add gravel; ditching; brushing	Rehabilitation	1-5	10	10.00	84370.00	21
44B	Hubble Rd	County Rd 44 N junction to S junction	100	6	80	G	4.550	5	10	5	10	16	6	1	10	63	Add gravel; ditching; brushing	Rehabilitation	1-5	10	10.00	225225.00	20
45B	Anderson Rd	County Rd 46 S to dead end	200	5	60	LCB	2.850	12	10	8	10	15	8	1	10	74	Double surface treatment	Resurface	Now	10	8.00	183084.00	17

HBM 2020 Road Needs Study
Road Condition Rating and Needs by Section Number

Section Number	Road Name	From/To	Traffic Class	Maint. Class	Speed Limit (km/h)	Surface Type	Length (km)	Drainage (15)	Horiz Alignment (10)	Mtce Demand (10)	Shoulder Width (10)	Structural Adequacy (20)	Surface Condition (10)	Surface Width (15)	Vertical Alignment (10)	Total Rating	Recommended Improvement	Need	Time of Need	Service Life	Improvement Unit Cost	Improvement Cost	Condition Priority
46B	Round Lake Rd	County Rd 46 to 3km East of County Rd 46	300	5	60	LCB	3.800	8	10	4	10	8	5	15	10	70	Double surface treatment	Resurface	Now	10	8.00	310992.00	27
47B	N Belmont 7th Line	Round Lake Rd to dead end	100	6	80	G	0.200	7	10	7	1	12	7	1	10	55	Rural Recon - gravel only	Rehabilitation	Now	20	37.00	56980.00	27
48B (A)	Burnt Dam Rd	Sugar Bush Rd to Preston Rd	200	4	80	LCB	0.460	12	10	8	10	14	7	1	10	72	Double surface treatment	Resurface	Now	10	8.00	28740.80	20
48B (B)	Burnt Dam Rd	Sugar Bush Rd to dead end	100	6	80	G	1.500	12	10	8	10	14	7	1	10	72	None	Resurface	Now	10	0.00	0.00	16
49B	Sugar Bush Lane	Burnt Dam Rd N to dead end	200	6	80	G	0.440	10	10	7	10	12	6	15	10	80	None	Resurface	1-5	10	0.00	0.00	12
50B	6th Concession Rd	Burnt Dam Rd/Preston Rd S to County Rd 48	300	5	60	LCB	4.930	9	10	6	10	9	6	15	10	75	Double surface treatment	Resurface	Now	10	8.00	351410.40	23
51B	Bowen Rd	County Rd 48 S & E to Crowe River	100	6	80	G	4.400	6	10	4	10	8	4	1	10	53	Add gravel; ditching; brushing	Rehabilitation	Now	10	10.00	266200.00	27
52B	Van Sickle Rd	County Road 48 N to FR 59 (N of Cordova Lk)	300	4	70	LCB	7.000	7	10	5	10	12	5	1	10	60	Pulverize; add gravel; double surface treatment	Rehabilitation	1-5	15	12.00	785400.00	33
53B	Vansickle Rd	FR 59 (N end of Cordova Lk N) to dead end	100	6	70	G	3.400	8	10	6	10	12	6	1	10	63	Add gravel; ditching; brushing	Rehabilitation	1-5	10	10.00	168300.00	22
54B1	Streets A,B&C Cordova	County Rd 48 S to dead end	100	6	50	HCB	0.300	8	10	8	10	16	8	7	10	77	Mill and pave - urban overlay - rural	Resurface	1-5	15	23.00	40986.00	13
54B2	Street B To Ball Park	County Rd 48 S to dead end	100	6	50	HCB	0.200	8	10	8	10	16	8	1	10	71	Mill and pave - urban overlay - rural	Resurface	Now	15	23.00	23782.00	16
55B	1st Concession Rd	County Rd 48 N to dead end	100	6	80	G	0.940	8	10	6	10	12	6	1	10	63	Add gravel; ditching; brushing	Rehabilitation	1-5	10	10.00	59972.00	21
56B (a)	Preston Rd	East of 6th Line to 6th Line	300	5	60	LCB	0.435	12	10	6	10	14	7	15	10	84	Double surface treatment	Resurface	6-10	10	8.00	29475.60	13
56B(b)	Preston Rd	W of County Rd 48 to E of 6th Line	300	5	60	LCB	0.350	12	10	6	10	14	7	9	10	78	Double surface treatment	Resurface	1-5	10	8.00	25256.00	18
56B(c)	Preston Rd	County Rd 48 S to W of County Rd 48	300	5	60	LCB	6.100	12	10	6	10	14	7	1	10	70	Double surface treatment	Resurface	Now	10	8.00	354288.00	25
57B	Preston Rd Extension To Fr 23	Preston Rd S to dead end	200	5	60	LCB	0.150	12	10	7	10	14	7	1	10	71	Double surface treatment	Resurface	Now	10	8.00	8316.00	21
59B	Fire Rd 25	Preston Road S to dead end	200	6	80	G	0.300	12	10	8	10	17	8	1	10	76	None	Resurface	1-5	20	0.00	0.00	15
59M	Devils 4 Mile Rd	County Rd 46 to Vansickle Rd	100	6	80	G	7.400	5	10	1	10	5	1	1	10	43	Rural Recon - gravel only	Reconstruct	Now	20	37.00	1355310.00	30
60M	Vansickle Trail	County Rd 46 to dead end	100	6	80	G	0.570	7	10	5	10	10	5	1	10	58	Add gravel; ditching; brushing	Rehabilitation	1-5	10	10.00	34485.00	23
61M	Post Road	County Rd 46 N to dead end at Oak Lk	100	6	60	LCB	0.500	7	10	5	10	10	4	1	10	57	Pulverize; add gravel; double surface treatment	Rehabilitation	1-5	15	12.00	41580.00	25
62M	East Posts Rd	Posts Rd E to County Rd 46	100	6	80	LCB	0.260	6	10	3	10	10	4	1	10	54	Pulverize; add gravel; double surface treatment	Rehabilitation	Now	15	12.00	24024.00	24
64M	Shady Lane Rd	Jack Lk Rd to end (at Millers)	300	4	80	LCB	1.300	10	10	5	10	15	7	15	10	82	Double surface treatment	Resurface	6-10	10	8.00	105248.00	15
65M	West Kosh Rd	County Rd 6 N to dead end (Kosh Lk)	300	4	80	G	4.500	7	10	6	10	14	6	1	10	64	Add gravel; ditching; brushing	Rehabilitation	1-5	10	10.00	455400.00	32
66M	Holdcroft Rd	West Kosh Rd to dead end (Kosh Lk)	100	6	80	G	0.500	7	10	5	10	14	5	1	10	62	Add gravel; ditching; brushing	Rehabilitation	1-5	10	10.00	33000.00	21
67M(a)	Stoney Point Rd	1.1km from West Kosh to end at Marina	200	5	40	G	0.900	10	10	6	10	14	7	1	10	68	Add gravel; ditching; brushing	Rehabilitation	1-5	10	10.00	69300.00	24
67M(b)	Stoney Point Rd	West Kosh Rd to 1.1km from West Kosh	300	4	80	G	1.100	10	10	6	10	14	7	1	10	68	Add gravel; ditching; brushing	Rehabilitation	1-5	10	10.00	108900.00	25
69M	Blue Mountain Rd	West Kosh Rd to dead end (Kosh Lk)	100	6	80	G	0.600	7	10	5	10	10	6	1	10	59	Add gravel; ditching; brushing	Rehabilitation	1-5	10	10.00	51480.00	24
70M	Unimin Road	County Rd 46 to mine	300	4	80	LCB	1.300	10	10	5	10	10	5	1	10	61	Pulverize; add gravel; double surface treatment	Rehabilitation	1-5	15	12.00	163020.00	32
71M	North Shore Rd	County Rd 46 to dead end at Kosh Lk	200	4	80	G	2.100	10	10	5	10	12	6	1	10	64	Add gravel; ditching; brushing	Rehabilitation	1-5	10	10.00	207900.00	27
72M	Penninsula Rd	North Shore Rd to FR 80d	200	4	80	G	3.500	10	10	5	10	12	6	1	10	64	Add gravel; ditching; brushing	Rehabilitation	1-5	10	10.00	234850.00	25
73M	Clare Newnhams Rd	County Rd 46 to dead end	100	6	80	G	1.500	5	10	5	10	6	4	1	10	51	Add gravel; ditching; brushing	Rehabilitation	Now	10	10.00	79200.00	27
74M	Sandy Lake Rd	County Rd 46 N to County Rd 46 Twin Lakes	100	6	80	G	11.100	6	10	4	10	7	5	1	10	53	Add gravel; ditching; brushing	Rehabilitation	Now	10	10.00	732600.00	26
75M	Tangamong Rd	Sandy Lake Rd to dead end at lake	100	6	80	G	3.400	5	10	3	10	6	3	1	10	48	Rural Recon - gravel only	Reconstruct	Now	20	37.00	761090.00	28

Appendix C: Improvement Prioritization

HBM 2020 Road Needs Study
Road Improvements by Priority Rating

Section Number	Road Name	From/To	Traffic Class	Maint. Class	Speed Limit (km/h)	Surface Type	Length (km)	Drainage (15)	Horiz Alignment (10)	Mtce Demand (10)	Shoulder Width (10)	Structural Adequacy (20)	Surface Condition (10)	Surface Width (15)	Vertical Alignment (10)	Total Rating	Recommended Improvement	Need	Time of Need	Service Life	Improvement Unit Cost	Improvement Cost	Condition Priority
13B	3rd Concession Rd	Hwy 7 N to County Rd 48	200	5	60	LCB	2.830	6	10	4	1	9	4	1	10	45	Rural Reconstruction	Reconstruct	Now	25	42.00	810625.20	40
26H	Ottawa St	West Connecting Link limit to start of C & G	800	3	50	HCB	0.220	10	10	6	10	12	7	15	10	80	Mill and pave - urban overlay - rural	Resurface	1-5	15	23.00	89056.00	38
27H	Ottawa St	Start of C & G to 260m East (pavement joint)	800	3	50	HCB	0.260	10	10	6	1	12	7	25	10	81	Mill and pave - urban overlay - rural	Resurface	6-10	15	23.00	77620.40	36
28H	Ottawa St	260m East (pavement joint) to East Connecting Link limit	800	3	50	HCB	1.520	10	10	6	1	12	7	25	10	81	Mill and pave - urban overlay - rural	Resurface	6-10	15	23.00	384560.00	36
11B	2nd Concession Rd	Hwy 7 to Dewey Rd	300	4	80	G	3.100	6	10	5	10	9	5	1	10	56	Add gravel; ditching; brushing	Rehabilitation	1-5	10	10.00	255750.00	34
52B	Van Sickle Rd	County Road 48 N to FR 59 (N of Cordova Lk)	300	4	70	LCB	7.000	7	10	5	10	12	5	1	10	60	Pulverize; add gravel; double surface treatment	Rehabilitation	1-5	15	12.00	785400.00	33
16B	Sawmill Bay	County Rd 48 N to dead end at FR30	200	4	80	LCB	0.700	6	10	4	10	8	4	1	10	53	Pulverize; add gravel; double surface treatment	Rehabilitation	Now	15	12.00	74844.00	32
70M	Unimin Road	County Rd 46 to mine	300	4	80	LCB	1.300	10	10	5	10	10	5	1	10	61	Pulverize; add gravel; double surface treatment	Rehabilitation	1-5	15	12.00	163020.00	32
12B	Dewey Rd (Boundary Rd)	2nd Concession to dead end	100	6	80	G	0.770	6	10	5	1	7	4	1	10	44	Rural Recon - gravel only	Reconstruct	Now	20	37.00	188034.00	32
21H	Industrial Dr	Mary St to Rotary Park	300	5	50	HCB	0.450	8	10	7	10	12	7	1	10	65	Pulverize and pave	Rehabilitation	1-5	20	27.00	90882.00	32
65M	West Kosh Rd	County Rd 6 N to dead end (Kosh Lk)	300	4	80	G	4.500	7	10	6	10	14	6	1	10	64	Add gravel; ditching; brushing	Rehabilitation	1-5	10	10.00	455400.00	32
02B	Terrace Road	Hwy 7 to North End	200	4	80	G	0.800	8	10	7	1	12	7	1	10	56	Add gravel; ditching; brushing	Rehabilitation	1-5	10	10.00	61600.00	32
23B	6th Concession Rd	Hwy 7 N to County Rd 48	400	5	60	HCB	1.700	9	10	7	10	14	6	1	10	67	Pulverize and pave	Rehabilitation	1-5	20	27.00	393822.00	32
36B	11th Concession Rd	Hwy 7 to North School Rd	300	4	80	LCB	1.500	10	10	6	10	13	6	1	10	66	Pulverize; add gravel; double surface treatment	Rehabilitation	1-5	15	12.00	174240.00	31
59M	Devils 4 Mile Rd	County Rd 46 to Vansickle Rd	100	6	80	G	7.400	5	10	1	10	5	1	1	10	43	Rural Recon - gravel only	Reconstruct	Now	20	37.00	1355310.00	30
37B(b)	North School Rd	Dummer twp boundary to Baker Rd	200	5	60	LCB	1.400	7	10	4	10	10	4	1	10	56	Pulverize; add gravel; double surface treatment	Rehabilitation	1-5	15	12.00	138600.00	30
75M	Tangamong Rd	Sandy Lake Rd to dead end at lake	100	6	80	G	3.400	5	10	3	10	6	3	1	10	48	Rural Recon - gravel only	Reconstruct	Now	20	37.00	761090.00	28
10H	Elm St	Ottawa St (Hwy 7) to Ontario St	300	5	50	HCB	0.055	8	10	7	1	12	7	15	10	70	Mill and pave - urban overlay - rural	Resurface	Now	15	23.00	18646.10	27
47B	N Belmont 7th Line	Round Lake Rd to dead end	100	6	80	G	0.200	7	10	7	1	12	7	1	10	55	Rural Recon - gravel only	Rehabilitation	Now	20	37.00	56980.00	27
46B	Round Lake Rd	County Rd 46 to 3km East of County Rd 46	300	5	60	LCB	3.800	8	10	4	10	8	5	15	10	70	Double surface treatment	Resurface	Now	10	8.00	310992.00	27
51B	Bowen Rd	County Rd 48 S & E to Crowe River	100	6	80	G	4.400	6	10	4	10	8	4	1	10	53	Add gravel; ditching; brushing	Rehabilitation	Now	10	10.00	266200.00	27
05B	Blairton Rd	0.8km North of Cole Rd.	100	6	50	G	1.300	8	10	6	1	12	7	1	10	55	Add gravel; ditching; brushing	Rehabilitation	Now	10	10.00	92950.00	27
73M	Clare Newnhams Rd	County Rd 46 to dead end	100	6	80	G	1.500	5	10	5	10	6	4	1	10	51	Add gravel; ditching; brushing	Rehabilitation	Now	10	10.00	79200.00	27
71M	North Shore Rd	County Rd 46 to dead end at Kosh Lk	200	4	80	G	2.100	10	10	5	10	12	6	1	10	64	Add gravel; ditching; brushing	Rehabilitation	1-5	10	10.00	207900.00	27
29B	8th Concession Rd	Old Norwood Rd to 0.8km S of Old Norwood Rd	200	5	60	LCB	1.800	8	10	6	10	12	7	1	10	64	Pulverize; add gravel; double surface treatment	Rehabilitation	1-5	15	12.00	173448.00	27
11H	Quebec St	Ottawa St (Hwy 7) to Ontario St	500	4	50	HCB	0.050	7	10	5	1	12	6	25	10	76	Mill and pave - urban overlay - rural	Resurface	1-5	20	23.00	14421.00	27
01B	1st Line	Boundary Rd. to Hwy. 7	100	6	80	G	1.000	8	10	7	1	12	7	1	10	56	Add gravel; ditching; brushing	Rehabilitation	1-5	10	10.00	77000.00	26
74M	Sandy Lake Rd	County Rd 46 N to County Rd 46 Twin Lakes	100	6	80	G	11.100	6	10	4	10	7	5	1	10	53	Add gravel; ditching; brushing	Rehabilitation	Now	10	10.00	732600.00	26
17B	4th Concession Rd	Hwy 7 to Concession allowance	200	4	80	G	2.300	10	10	6	10	10	6	1	10	63	Add gravel; ditching; brushing	Rehabilitation	1-5	10	10.00	189750.00	26
29H	Mill Ln	Ottawa St to George St	100	6	50	HCB	0.100	6	10	4	10	8	4	1	10	53	Pulverize and pave	Rehabilitation	Now	20	27.00	14256.00	26
35B (a)	11th Concession Rd	Old Norwood Road to Hwy 7	300	4	80	LCB	0.200	10	10	6	10	13	7	1	10	67	Pulverize; add gravel; double surface treatment	Rehabilitation	1-5	15	12.00	21120.00	26
34B(a)	Old Norwood Rd	Concession 10 to Concession 11	200	4	80	LCB	1.440	10	10	7	10	12	6	1	10	66	Pulverize; add gravel; double surface treatment	Rehabilitation	1-5	15	12.00	146361.60	25
34B(b)	Old Norwood Rd	Hwy 30 to Concession 10	200	4	80	LCB	1.290	10	10	7	10	12	6	1	10	66	Pulverize; add gravel; double surface treatment	Rehabilitation	1-5	15	12.00	124304.40	25
33B	Old Norwood Rd	East of 8th Concession to Municpal well entrance	200	5	60	LCB	0.260	10	10	7	10	12	6	1	10	66	Pulverize; add gravel; double surface treatment	Rehabilitation	1-5	15	12.00	26426.40	25
67M(b)	Stoney Point Rd	West Kosh Rd to 1.1km from West Kosh	300	4	80	G	1.100	10	10	6	10	14	7	1	10	68	Add gravel; ditching; brushing	Rehabilitation	1-5	10	10.00	108900.00	25
61M	Post Road	County Rd 46 N to dead end at Oak Lk	100	6	60	LCB	0.500	7	10	5	10	10	4	1	10	57	Pulverize; add gravel; double surface treatment	Rehabilitation	1-5	15	12.00	41580.00	25
09B	Cole Rd	Blairton Rd W to 2nd Concession	100	6	80	G	1.500	10	10	7	1	12	6	1	10	57	Add gravel; ditching; brushing	Rehabilitation	1-5	10	10.00	115500.00	25
72M	Penninsula Rd	North Shore Rd to FR 80d	200	4	80	G	3.500	10	10	5	10	12	6	1	10	64	Add gravel; ditching; brushing	Rehabilitation	1-5	10	10.00	234850.00	25
28B	8th Concession Rd	Hav S. Ward boundary to Old Norwood Rd	300	5	60	HCB	0.330	7	10	5	10	8	5	15	10	70	Mill and pave - urban overlay - rural	Resurface	Now	15	23.00	61782.60	25
56B(c)	Preston Rd	County Rd 48 S to W of County Rd 48	300	5	60	LCB	6.100	12	10	6	10	14	7	1	10	70	Double surface treatment	Resurface	Now	10	8.00	354288.00	25
24B	7th Concession Rd	County Rd 48 to 1.2km N of County Rd 48	200	4	80	G	1.220	7	10	6	10	10	7	1	10	61	Add gravel; ditching; brushing	Rehabilitation	1-5	10	10.00	84546.00	25

HBM 2020 Road Needs Study
Road Improvements by Priority Rating

Section Number	Road Name	From/To	Traffic Class	Maint. Class	Speed Limit (km/h)	Surface Type	Length (km)	Drainage (15)	Horiz Alignment (10)	Mtce Demand (10)	Shoulder Width (10)	Structural Adequacy (20)	Surface Condition (10)	Surface Width (15)	Vertical Alignment (10)	Total Rating	Recommended Improvement	Need	Time of Need	Service Life	Improvement Unit Cost	Improvement Cost	Condition Priority
07B	Queen St (Blairton)	Blairton Rd. W to dead end	100	6	50	LCB	0.100	8	10	6	1	12	7	1	10	55	Pulverize; add gravel; double surface treatment	Rehabilitation	Now	10	12.00	7920.00	25
18H	William St	Ottawa St (Hwy 7) to Mathison St E	200	5	50	HCB	0.210	7	10	3	10	7	5	15	10	67	Pulverize and pave	Rehabilitation	1-5	20	27.00	77962.50	25
15B	5th Concession Rd	County Rd 48 S to dead end	100	6	80	G	0.330	6	10	4	10	8	4	1	10	53	Add gravel; ditching; brushing	Rehabilitation	Now	20	37.00	81929.10	24
22H	Mary St	Ottawa St (Hwy 7) to S Ward boundary	400	5	40	HCB	0.170	8	10	6	10	10	6	15	10	75	Mill and pave - urban overlay - rural	Resurface	Now	15	23.00	31397.30	24
67M(a)	Stoney Point Rd	1.1km from West Kosh to end at Marina	200	5	40	G	0.900	10	10	6	10	14	7	1	10	68	Add gravel; ditching; brushing	Rehabilitation	1-5	10	10.00	69300.00	24
62M	East Posts Rd	Posts Rd E to County Rd 46	100	6	80	LCB	0.260	6	10	3	10	10	4	1	10	54	Pulverize; add gravel; double surface treatment	Rehabilitation	Now	15	12.00	24024.00	24
69M	Blue Mountain Rd	West Kosh Rd to dead end (Kosh Lk)	100	6	80	G	0.600	7	10	5	10	10	6	1	10	59	Add gravel; ditching; brushing	Rehabilitation	1-5	10	10.00	51480.00	24
07H	Alexander St	County Rd 46 to Union St.	200	5	50	HCB	0.350	8	10	4	1	10	5	15	10	63	Pulverize and pave	Rehabilitation	1-5	20	27.00	114345.00	23
60M	Vansickle Trail	County Rd 46 to dead end	100	6	80	G	0.570	7	10	5	10	10	5	1	10	58	Add gravel; ditching; brushing	Rehabilitation	1-5	10	10.00	34485.00	23
50B	6th Concession Rd	Burnt Dam Rd/Preston Rd S to County Rd 48	300	5	60	LCB	4.930	9	10	6	10	9	6	15	10	75	Double surface treatment	Resurface	Now	10	8.00	351410.40	23
37B(c)	North School Rd	Baker Rd to 2.4km east of Baker Rd	300	5	60	LCB	2.400	12	10	7	10	15	8	1	10	73	Double surface treatment	Resurface	Now	10	8.00	137280.00	22
26B	Weller Rd	County Rd 48 to Hwy 7	200	4	80	G	0.600	10	10	7	10	12	6	1	10	66	Add gravel; ditching; brushing	Rehabilitation	1-5	10	10.00	49500.00	22
53B	Vansickle Rd	FR 59 (N end of Cordova Lk N) to dead end	100	6	70	G	3.400	8	10	6	10	12	6	1	10	63	Add gravel; ditching; brushing	Rehabilitation	1-5	10	10.00	168300.00	22
08B	Blairton Rd	Hwy 7 S to dead end	100	6	80	G	0.100	8	10	7	1	14	7	1	10	58	Add gravel; ditching; brushing	Rehabilitation	1-5	10	10.00	5500.00	22
27B	Weller Rd	Hwy 7 S to Concession Rd 8	200	4	80	G	0.515	10	10	7	10	12	6	1	10	66	Add gravel; ditching; brushing	Rehabilitation	1-5	10	10.00	39655.00	22
01H	Old Norwood Rd	End of C & G to County Rd. 30	200	5	60	LCB	0.110	11	10	6	1	12	6	15	10	71	Double surface treatment	Resurface	Now	10	8.00	6001.60	22
57B	Preston Rd Extension To Fr 23	Preston Rd S to dead end	200	5	60	LCB	0.150	12	10	7	10	14	7	1	10	71	Double surface treatment	Resurface	Now	10	8.00	8316.00	21
04B	Blairton Rd	Cole Rd N 0.8km	300	5	50	LCB	0.900	11	10	6	1	14	7	15	10	74	Double surface treatment	Resurface	Now	10	8.00	57024.00	21
14B	Mile Of Memories	Conty Road 48 to Belmont Lake	300	5	60	LCB	1.900	11	10	7	1	14	6	15	10	74	Double surface treatment	Resurface	Now	15	8.00	103664.00	21
32B	10th Concession Rd	County Rd 42 to Old Norwood Rd	200	6	80	G	3.100	11	10	6	10	10	7	1	10	65	Add gravel; ditching; brushing	Rehabilitation	1-5	10	10.00	279620.00	21
42B(A)	Church Rd	County Rd 46 to East of County Rd 44	100	6	80	G	1.530	10	10	6	10	12	6	1	10	65	Add gravel; ditching; brushing	Rehabilitation	1-5	10	10.00	109395.00	21
42B(C)	Church Rd	10th Concession Rd to train tracks	100	6	80	G	1.180	10	10	6	10	12	6	1	10	65	Add gravel; ditching; brushing	Rehabilitation	1-5	10	10.00	84370.00	21
42B(B)	Church Rd	County Rd 44 to train tracks	100	6	80	LCB	0.170	10	10	6	10	12	6	1	10	65	Pulverize; add gravel; double surface treatment	Rehabilitation	1-5	15	12.00	15708.00	21
55B	1st Concession Rd	County Rd 48 N to dead end	100	6	80	G	0.940	8	10	6	10	12	6	1	10	63	Add gravel; ditching; brushing	Rehabilitation	1-5	10	10.00	59972.00	21
66M	Holdcroft Rd	West Kosh Rd to dead end (Kosh Lk)	100	6	80	G	0.500	7	10	5	10	14	5	1	10	62	Add gravel; ditching; brushing	Rehabilitation	1-5	10	10.00	33000.00	21
40B	10th Concession Rd	North School Rd to Church Rd	100	6	80	G	2.400	10	10	5	10	12	6	1	10	64	Add gravel; ditching; brushing	Rehabilitation	1-5	10	10.00	171600.00	21
41B	10th Concession Rd	Church Road to dead end	100	6	80	G	1.900	10	10	5	10	12	6	1	10	64	Add gravel; ditching; brushing	Rehabilitation	1-5	10	10.00	135850.00	21
20B	7th Concession Rd	Seymour Tsp. Boundary to Hwy 7	400	4	60	LCB	3.160	14	10	9	10	18	8	1	10	80	Double surface treatment	Resurface	1-5	10	8.00	214121.60	20
18B	4th Concession Rd	2.3km S of Hwy 7 to Seymour Twp. Boundary	200	6	50	G	1.000	10	10	6	10	14	6	1	10	67	Add gravel; ditching; brushing	Rehabilitation	1-5	20	10.00	68200.00	20
48B (A)	Burnt Dam Rd	Sugar Bush Rd to Preston Rd	200	4	80	LCB	0.460	12	10	8	10	14	7	1	10	72	Double surface treatment	Resurface	Now	10	8.00	28740.80	20
35B (b)	11th Concession Rd	County Rd 42 to Old Norwood Rd	100	6	80	G	3.200	10	10	6	10	13	7	1	10	67	Add gravel; ditching; brushing	Rehabilitation	1-5	10	10.00	281600.00	20
44B	Hubble Rd	County Rd 44 N junction to S junction	100	6	80	G	4.550	5	10	5	10	16	6	1	10	63	Add gravel; ditching; brushing	Rehabilitation	1-5	10	10.00	225225.00	20
17H(B)	Mathison St E	William St to Park St	200	5	50	HCB	0.131	7	10	5	10	12	5	15	10	74	Mill and pave - urban overlay - rural	Resurface	Now	15	23.00	23200.10	19
39B(a)	Baker Rd	County Rd 46 W for 1.5km	200	5	60	LCB	1.460	12	10	6	10	12	6	8	10	74	Double surface treatment	Resurface	Now	10	8.00	83512.00	19
03B	Blairton Rd	Hwy 7 North to Cole Rd.	300	5	50	LCB	1.100	12	10	8	1	16	8	15	10	80	Double surface treatment	Resurface	1-5	10	8.00	72600.00	18
56B(b)	Preston Rd	W of County Rd 48 to E of 6th Line	300	5	60	LCB	0.350	12	10	6	10	14	7	9	10	78	Double surface treatment	Resurface	1-5	10	8.00	25256.00	18
15H	Orange St	Ottawa St to George St	100	6	50	HCB	0.100	5	10	5	10	8	5	15	10	68	Pulverize and pave	Rehabilitation	1-5	20	27.00	39501.00	17
45B	Anderson Rd	County Rd 46 S to dead end	200	5	60	LCB	2.850	12	10	8	10	15	8	1	10	74	Double surface treatment	Resurface	Now	10	8.00	183084.00	17
31B(a)	Browns Line	8th Concession Rd to County Rd 30	200	5	60	LCB	1.510	9	10	6	10	11	7	15	10	78	Double surface treatment	Resurface	1-5	10	8.00	122249.60	16
48B (B)	Burnt Dam Rd	Sugar Bush Rd to dead end	100	6	80	G	1.500	12	10	8	10	14	7	1	10	72	None	Resurface	Now	10	0.00	0.00	16
03H	Pomeroy Dr	County Rd. 30 to dead end	100	6	50	HCB	0.080	10	10	7	1	12	6	15	10	71	Mill and pave - urban overlay - rural	Resurface	Now	15	23.00	12144.00	16

HBM 2020 Road Needs Study
Road Improvements by Priority Rating

Section Number	Road Name	From/To	Traffic Class	Maint. Class	Speed Limit (km/h)	Surface Type	Length (km)	Drainage (15)	Horiz Alignment (10)	Mtce Demand (10)	Shoulder Width (10)	Structural Adequacy (20)	Surface Condition (10)	Surface Width (15)	Vertical Alignment (10)	Total Rating	Recommended Improvement	Need	Time of Need	Service Life	Improvement Unit Cost	Improvement Cost	Condition Priority
54B2	Street B To Ball Park	County Rd 48 S to dead end	100	6	50	HCB	0.200	8	10	8	10	16	8	1	10	71	Mill and pave - urban overlay - rural	Resurface	Now	15	23.00	23782.00	16
25H(a)	Oak St	George St to King St	400	5	50	HCB	0.210	13	10	8	1	18	8	15	10	83	Mill and pave - urban overlay - rural	Resurface	6-10	15	23.00	37191.00	16
37B(a)	North School Rd	2.4km E of Baker Rd to County Rd 46 (C9 L13)	100	6	60	LCB	0.890	12	10	7	10	15	8	1	10	73	Double surface treatment	Resurface	Now	10	8.00	55607.20	16
20H	Mary St	George St N to dead end	100	6	50	HCB	0.360	6	10	5	10	10	6	15	10	72	Mill and pave - urban overlay - rural	Resurface	Now	15	23.00	63756.00	16
19H	William St	Mathison St E to north turn-around	200	5	50	HCB	0.220	6	10	6	10	13	6	15	10	76	Mill and pave - urban overlay - rural	Resurface	1-5	15	23.00	38962.00	16
25H(b)	Oak St	Ottawa St (Hwy 7) to George St	400	5	50	HCB	0.110	13	10	8	1	18	8	15	10	83	Mill and pave - urban overlay - rural	Resurface	6-10	15	23.00	19481.00	15
22B	6th Concession Rd	Hwy 7 to dead end	200	6	40	G	1.640	13	10	8	10	16	7	1	10	75	None	Resurface	Now	10	0.00	0.00	15
59B	Fire Rd 25	Preston Road S to dead end	200	6	80	G	0.300	12	10	8	10	17	8	1	10	76	None	Resurface	1-5	20	0.00	0.00	15
64M	Shady Lane Rd	Jack Lk Rd to end (at Millers)	300	4	80	LCB	1.300	10	10	5	10	15	7	15	10	82	Double surface treatment	Resurface	6-10	10	8.00	105248.00	15
39B(b)	Baker Rd	1.5km East of County Rd 46 to North School Rd	200	5	60	LCB	1.140	12	10	6	10	12	6	15	10	81	Double surface treatment	Resurface	6-10	10	8.00	76243.20	14
10B	2nd Concession Rd	County Rd 48 S to Hwy 7	400	4	60	LCB	3.000	11	10	7	10	15	8	15	10	86	Double surface treatment	Resurface	10+	10	8.00	245520.00	14
38B	Menzies Rd	County Rd 46 E to dead end	100	6	80	G	0.310	12	10	8	10	16	8	1	10	75	None	Resurface	Now	10	0.00	0.00	13
02H	Old Norwood Rd	Municipal Well Entrance to County Rd. 30	200	5	60	LCB	1.335	11	10	7	10	12	7	15	10	82	Double surface treatment	Resurface	6-10	10	8.00	88110.00	13
56B (a)	Preston Rd	East of 6th Line to 6th Line	300	5	60	LCB	0.435	12	10	6	10	14	7	15	10	84	Double surface treatment	Resurface	6-10	10	8.00	29475.60	13
54B1	Streets A,B&C Cordova	County Rd 48 S to dead end	100	6	50	HCB	0.300	8	10	8	10	16	8	7	10	77	Mill and pave - urban overlay - rural	Resurface	1-5	15	23.00	40986.00	13
12H	Quebec St	George St to Mathison St	400	4	50	HCB	0.100	14	10	9	1	19	9	15	10	87	Mill and pave - urban overlay - rural	Resurface	10+	15	23.00	29095.00	13
49B	Sugar Bush Lane	Burnt Dam Rd N to dead end	200	6	80	G	0.440	10	10	7	10	12	6	15	10	80	None	Resurface	1-5	10	0.00	0.00	12
08H(a)	Ann St 08	Ontario St to Alexander St	100	6	50	HCB	0.100	12	10	8	1	16	8	15	10	80	Mill and pave - urban overlay - rural	Resurface	1-5	15	17.00	15708.00	11
05H	Mclean Ave	County Rd 46 to Union St.	300	5	50	HCB	0.405	14	10	9	1	19	9	15	10	87	Mill and pave - urban overlay - rural	Resurface	10+	15	23.00	64552.95	11
24H	King St	Union St to dead end at Arena Park	300	5	50	HCB	0.550	14	10	9	1	19	9	15	10	87	Mill and pave - urban overlay - rural	Resurface	10+	15	23.00	201767.50	11
19B	Trent River Rd	County Rd 50 to 7th Concession Rd	300	5	50	LCB	2.520	10	10	9	10	14	9	15	10	87	Double surface treatment	Resurface	10+	25	8.00	166320.00	11
30B	8th Concession Rd	0.8km S of Old Norwood Rd to Brown's Line	200	5	60	LCB	2.250	12	10	7	10	15	7	15	10	86	Double surface treatment	Resurface	10+	10	8.00	158400.00	10
30H	Smith Drive	County Road 30 to dead end	100	6	80	HCB	0.250	10	10	10	1	15	10	15	10	81	Mill and pave - urban overlay - rural	Resurface	6-10	20	37.00	91575.00	10
06H	Donald St	County Rd. 46 to Union St.	200	5	50	HCB	0.375	14	10	9	1	19	9	15	10	87	Mill and pave - urban overlay - rural	Resurface	10+	15	23.00	60720.00	9
04H	Princess St	County Rd 30 to dead end	100	6	50	HCB	0.110	10	10	8	10	14	8	15	10	85	Mill and pave - urban overlay - rural	Resurface	6-10	15	17.00	18513.00	8
06B	Blairton Tent & Trailer Park Rd	Blairton Road to dead end	300	5	50	LCB	0.300	12	10	8	10	16	8	15	10	89	Double surface treatment	Resurface	10+	10	8.00	20064.00	8
17H(A)	Mathison St E	William St to E dead end	100	6	50	HCB	0.109	10	10	7	10	17	8	15	10	87	Mill and pave - urban overlay - rural	Resurface	10+	15	17.00	19771.51	8
16H	Park St	George St to Mathison St	200	5	50	HCB	0.100	13	10	8	10	17	8	15	10	91	Mill and pave - urban overlay - rural	Resurface	10+	15	17.00	21505.00	6
17H(C)	Mathison St E	W dead end (Arena) to Park St	100	6	50	HCB	0.110	13	10	8	10	18	8	15	10	92	Mill and pave - urban overlay - rural	Resurface	10+	15	17.00	23449.80	5
08H(b)	Ann St 08	Alexander St to Donald St	100	6	50	HCB	0.100	12	10	8	10	19	8	15	10	92	Mill and pave - urban overlay - rural	Resurface	10+	15	23.00	24035.00	4
09H	Union St	Ontario St to Mclean Ave	300	5	50	HCB	0.300	14	10	9	10	19	9	15	10	96	Mill and pave - urban overlay - rural	Resurface	10+	15	23.00	78177.00	3
14H	Victoria St	George St to King St	300	5	50	HCB	0.200	14	10	9	10	19	9	15	10	96	Mill and pave - urban overlay - rural	Resurface	10+	15	23.00	45540.00	3
23H	Mathison St	Victoria St to Union St	200	5	50	HCB	0.450	14	10	9	10	19	9	15	10	96	Mill and pave - urban overlay - rural	Resurface	10+	15	17.00	85833.00	3

Appendix D: Improvement Plans

Resurfacing

Rehabilitation

Reconstruction

HBM 2020 Road Needs Study
Resurfacing Projects by Priority Rating

Section Number	Road Name	From/To	Surface Type	Total Rating	Recommended Improvement	Need	Time of Need	Service Life	Improvement Unit Cost	Improvement Cost	Condition Priority
26H	Ottawa St	West Connecting Link limit to start of C & G	HCB	80	Mill and pave - urban overlay - rural	Resurface	1-5	15	23.00	89056.00	38
27H	Ottawa St	Start of C & G to 260m East (pavement joint)	HCB	81	Mill and pave - urban overlay - rural	Resurface	6-10	15	23.00	77620.40	36
28H	Ottawa St	260m East (pavement joint) to East Connecting Link limit	HCB	81	Mill and pave - urban overlay - rural	Resurface	6-10	15	23.00	384560.00	36
10H	Elm St	Ottawa St (Hwy 7) to Ontario St	HCB	70	Mill and pave - urban overlay - rural	Resurface	Now	15	23.00	18646.10	27
46B	Round Lake Rd	County Rd 46 to 3km East of County Rd 46	LCB	70	Double surface treatment	Resurface	Now	10	8.00	310992.00	27
11H	Quebec St	Ottawa St (Hwy 7) to Ontario St	HCB	76	Mill and pave - urban overlay - rural	Resurface	1-5	20	23.00	14421.00	27
28B	8th Concession Rd	Hav S. Ward boundary to Old Norwood Rd	HCB	70	Mill and pave - urban overlay - rural	Resurface	Now	15	23.00	61782.60	25
56B(c)	Preston Rd	County Rd 48 S to W of County Rd 48	LCB	70	Double surface treatment	Resurface	Now	10	8.00	354288.00	25
22H	Mary St	Ottawa St (Hwy 7) to S Ward boundary	HCB	75	Mill and pave - urban overlay - rural	Resurface	Now	15	23.00	31397.30	24
50B	6th Concession Rd	Burnt Dam Rd/Preston Rd S to County Rd 48	LCB	75	Double surface treatment	Resurface	Now	10	8.00	351410.40	23
37B(c)	North School Rd	Baker Rd to 2.4km east of Baker Rd	LCB	73	Double surface treatment	Resurface	Now	10	8.00	137280.00	22
01H (old)	Norwood Rd	End of C & G to County Rd. 30	LCB	71	Double surface treatment	Resurface	Now	10	8.00	6001.60	22
57B	Preston Rd Extension To Fr 23	Preston Rd S to dead end	LCB	71	Double surface treatment	Resurface	Now	10	8.00	8316.00	21
04B	Blairton Rd	Cole Rd N 0.8km	LCB	74	Double surface treatment	Resurface	Now	10	8.00	57024.00	21
14B	Mile Of Memories	Conty Road 48 to Belmont Lake	LCB	74	Double surface treatment	Resurface	Now	15	8.00	103664.00	21
20B	7th Concession Rd	Seymour Tsp. Boundary to Hwy 7	LCB	80	Double surface treatment	Resurface	1-5	10	8.00	214121.60	20
48B (A)	Burnt Dam Rd	Sugar Bush Rd to Preston Rd	LCB	72	Double surface treatment	Resurface	Now	10	8.00	28740.80	20
17H(B)	Mathison St E	William St to Park St	HCB	74	Mill and pave - urban overlay - rural	Resurface	Now	15	23.00	23200.10	19
39B(a)	Baker Rd	County Rd 46 W for 1.5km	LCB	74	Double surface treatment	Resurface	Now	10	8.00	83512.00	19
03B	Blairton Rd	Hwy 7 North to Cole Rd.	LCB	80	Double surface treatment	Resurface	1-5	10	8.00	72600.00	18
56B(b)	Preston Rd	W of County Rd 48 to E of 6th Line	LCB	78	Double surface treatment	Resurface	1-5	10	8.00	25256.00	18
45B	Anderson Rd	County Rd 46 S to dead end	LCB	74	Double surface treatment	Resurface	Now	10	8.00	183084.00	17
31B(a)	Browns Line	8th Concession Rd to County Rd 30	LCB	78	Double surface treatment	Resurface	1-5	10	8.00	122249.60	16
48B (B)	Burnt Dam Rd	Sugar Bush Rd to dead end	G	72	None	Resurface	Now	10	0.00	0.00	16
03H	Pomeroy Dr	County Rd. 30 to dead end	HCB	71	Mill and pave - urban overlay - rural	Resurface	Now	15	23.00	12144.00	16
54B2	Street B To Ball Park	County Rd 48 S to dead end	HCB	71	Mill and pave - urban overlay - rural	Resurface	Now	15	23.00	23782.00	16
25H(a)	Oak St	George St to King St	HCB	83	Mill and pave - urban overlay - rural	Resurface	6-10	15	23.00	37191.00	16
37B(a)	North School Rd	2.4km E of Baker Rd to County Rd 46 (C9 L13)	LCB	73	Double surface treatment	Resurface	Now	10	8.00	55607.20	16
20H	Mary St	George St N to dead end	HCB	72	Mill and pave - urban overlay - rural	Resurface	Now	15	23.00	63756.00	16
19H	William St	Mathison St E to north turn-around	HCB	76	Mill and pave - urban overlay - rural	Resurface	1-5	15	23.00	38962.00	16
25H(b)	Oak St	Ottawa St (Hwy 7) to George St	HCB	83	Mill and pave - urban overlay - rural	Resurface	6-10	15	23.00	19481.00	15
22B	6th Concession Rd	Hwy 7 to dead end	G	75	None	Resurface	Now	10	0.00	0.00	15
59B	Fire Rd 25	Preston Road S to dead end	G	76	None	Resurface	1-5	20	0.00	0.00	15
64M	Shady Lane Rd	Jack Lk Rd to end (at Millers)	LCB	82	Double surface treatment	Resurface	6-10	10	8.00	105248.00	15
39B(b)	Baker Rd	1.5km East of County Rd 46 to North School Rd	LCB	81	Double surface treatment	Resurface	6-10	10	8.00	76243.20	14
10B	2nd Concession Rd	County Rd 48 S to Hwy 7	LCB	86	Double surface treatment	Resurface	10+	10	8.00	245520.00	14
38B	Menzies Rd	County Rd 46 E to dead end	G	75	None	Resurface	Now	10	0.00	0.00	13
02H (old)	Norwood Rd	Municipal Well Entrance to County Rd. 30	LCB	82	Double surface treatment	Resurface	6-10	10	8.00	88110.00	13
56B (a)	Preston Rd	East of 6th Line to 6th Line	LCB	84	Double surface treatment	Resurface	6-10	10	8.00	29475.60	13
54B1	Streets A,B&C Cordova	County Rd 48 S to dead end	HCB	77	Mill and pave - urban overlay - rural	Resurface	1-5	15	23.00	40986.00	13
12H	Quebec St	George St to Mathison St	HCB	87	Mill and pave - urban overlay - rural	Resurface	10+	15	23.00	29095.00	13
49B	Sugar Bush Lane	Burnt Dam Rd N to dead end	G	80	None	Resurface	1-5	10	0.00	0.00	12
08H(a)	Ann St 08	Ontario St to Alexander St	HCB	80	Mill and pave - urban overlay - rural	Resurface	1-5	15	17.00	15708.00	11
05H	Mclean Ave	County Rd 46 to Union St.	HCB	87	Mill and pave - urban overlay - rural	Resurface	10+	15	23.00	64552.95	11
24H	King St	Union St to dead end at Arena Park	HCB	87	Mill and pave - urban overlay - rural	Resurface	10+	15	23.00	201767.50	11
19B	Trent River Rd	County Rd 50 to 7th Concession Rd	LCB	87	Double surface treatment	Resurface	10+	25	8.00	166320.00	11
30B	8th Concession Rd	0.8km S of Old Norwood Rd to Brown's Line	LCB	86	Double surface treatment	Resurface	10+	10	8.00	158400.00	10
30H	Smith Drive	County Road 30 to dead end	HCB	81	Mill and pave - urban overlay - rural	Resurface	6-10	20	37.00	91575.00	10

HBM 2020 Road Needs Study
Resurfacing Projects by Priority Rating

Section Number	Road Name	From/To	Surface Type	Total Rating	Recommended Improvement	Need	Time of Need	Service Life	Improvement Unit Cost	Improvement Cost	Condition Priority
06H	Donald St	County Rd. 46 to Union St.	HCB	87	Mill and pave - urban overlay - rural	Resurface	10+	15	23.00	60720.00	9
04H	Princess St	County Rd 30 to dead end	HCB	85	Mill and pave - urban overlay - rural	Resurface	6-10	15	17.00	18513.00	8
06B	Blairton Tent & Trailer Park Rd	Blairton Road to dead end	LCB	89	Double surface treatment	Resurface	10+	10	8.00	20064.00	8
17H(A)	Mathison St E	William St to E dead end	HCB	87	Mill and pave - urban overlay - rural	Resurface	10+	15	17.00	19771.51	8
16H	Park St	George St to Mathison St	HCB	91	Mill and pave - urban overlay - rural	Resurface	10+	15	17.00	21505.00	6
17H(C)	Mathison St E	W dead end (Arena) to Park St	HCB	92	Mill and pave - urban overlay - rural	Resurface	10+	15	17.00	23449.80	5
08H(b)	Ann St 08	Alexander St to Donald St	HCB	92	Mill and pave - urban overlay - rural	Resurface	10+	15	23.00	24035.00	4
09H	Union St	Ontario St to Mclean Ave	HCB	96	Mill and pave - urban overlay - rural	Resurface	10+	15	23.00	78177.00	3
14H	Victoria St	George St to King St	HCB	96	Mill and pave - urban overlay - rural	Resurface	10+	15	23.00	45540.00	3
23H	Mathison St	Victoria St to Union St	HCB	96	Mill and pave - urban overlay - rural	Resurface	10+	15	17.00	85833.00	3

HBM 2020 Road Needs Study
Rehabilitation Projects by Priority Rating

Section Number	Road Name	From/To	Surface Type	Length (km)	Total Rating	Recommended Improvement	Need	Time of Need	Service Life	Improvement Unit Cost	Improvement Cost	Condition Priority
11B	2nd Concession Rd	Hwy 7 to Dewey Rd	G	3.100	56	Add gravel; ditching; brushing	Rehabilitation	1-5	10	10.00	255750.00	34
52B	Van Sickle Rd	County Road 48 N to FR 59 (N of Cordova Lk)	LCB	7.000	60	Pulverize; add gravel; double surface treatment	Rehabilitation	1-5	15	12.00	785400.00	33
16B	Sawmill Bay	County Rd 48 N to dead end at FR30	LCB	0.700	53	Pulverize; add gravel; double surface treatment	Rehabilitation	Now	15	12.00	74844.00	32
70M	Unimin Road	County Rd 46 to mine	LCB	1.300	61	Pulverize; add gravel; double surface treatment	Rehabilitation	1-5	15	12.00	163020.00	32
21H	Industrial Dr	Mary St to Rotary Park	HCB	0.450	65	Pulverize and pave	Rehabilitation	1-5	20	27.00	90882.00	32
65M	West Kosh Rd	County Rd 6 N to dead end (Kosh Lk)	G	4.500	64	Add gravel; ditching; brushing	Rehabilitation	1-5	10	10.00	455400.00	32
02B	Terrace Road	Hwy 7 to North End	G	0.800	56	Add gravel; ditching; brushing	Rehabilitation	1-5	10	10.00	61600.00	32
23B	6th Concession Rd	Hwy 7 N to County Rd 48	HCB	1.700	67	Pulverize and pave	Rehabilitation	1-5	20	27.00	393822.00	32
36B	11th Concession Rd	Hwy 7 to North School Rd	LCB	1.500	66	Pulverize; add gravel; double surface treatment	Rehabilitation	1-5	15	12.00	174240.00	31
37B(b)	North School Rd	Dummer twp boundary to Baker Rd	LCB	1.400	56	Pulverize; add gravel; double surface treatment	Rehabilitation	1-5	15	12.00	138600.00	30
47B	N Belmont 7th Line	Round Lake Rd to dead end	G	0.200	55	Rural Recon - gravel only	Rehabilitation	Now	20	37.00	56980.00	27
51B	Bowen Rd	County Rd 48 S & E to Crowe River	G	4.400	53	Add gravel; ditching; brushing	Rehabilitation	Now	10	10.00	266200.00	27
05B	Blairton Rd	0.8km North of Cole Rd.	G	1.300	55	Add gravel; ditching; brushing	Rehabilitation	Now	10	10.00	92950.00	27
73M	Clare Newnhams Rd	County Rd 46 to dead end	G	1.500	51	Add gravel; ditching; brushing	Rehabilitation	Now	10	10.00	79200.00	27
71M	North Shore Rd	County Rd 46 to dead end at Kosh Lk	G	2.100	64	Add gravel; ditching; brushing	Rehabilitation	1-5	10	10.00	207900.00	27
29B	8th Concession Rd	Old Norwood Rd to 0.8km S of Old Norwood Rd	LCB	1.800	64	Pulverize; add gravel; double surface treatment	Rehabilitation	1-5	15	12.00	173448.00	27
01B	1st Line	Boundary Rd. to Hwy. 7	G	1.000	56	Add gravel; ditching; brushing	Rehabilitation	1-5	10	10.00	77000.00	26
74M	Sandy Lake Rd	County Rd 46 N to County Rd 46 Twin Lakes	G	11.100	53	Add gravel; ditching; brushing	Rehabilitation	Now	10	10.00	732600.00	26
17B	4th Concession Rd	Hwy 7 to Concession allowance	G	2.300	63	Add gravel; ditching; brushing	Rehabilitation	1-5	10	10.00	189750.00	26
29H	Mill Ln	Ottawa St to George St	HCB	0.100	53	Pulverize and pave	Rehabilitation	Now	20	27.00	14256.00	26
35B (a)	11th Concession Rd	Old Norwood Road to Hwy 7	LCB	0.200	67	Pulverize; add gravel; double surface treatment	Rehabilitation	1-5	15	12.00	21120.00	26
34B(a)	Old Norwood Rd	Concession 10 to Concession 11	LCB	1.440	66	Pulverize; add gravel; double surface treatment	Rehabilitation	1-5	15	12.00	146361.60	25
34B(b)	Old Norwood Rd	Hwy 30 to Concession 10	LCB	1.290	66	Pulverize; add gravel; double surface treatment	Rehabilitation	1-5	15	12.00	124304.40	25
33B	Old Norwood Rd	East of 8th Concession to Municpal well entrance	LCB	0.260	66	Pulverize; add gravel; double surface treatment	Rehabilitation	1-5	15	12.00	26426.40	25
67M(b)	Stoney Point Rd	West Kosh Rd to 1.1km from West Kosh	G	1.100	68	Add gravel; ditching; brushing	Rehabilitation	1-5	10	10.00	108900.00	25
61M	Post Road	County Rd 46 N to dead end at Oak Lk	LCB	0.500	57	Pulverize; add gravel; double surface treatment	Rehabilitation	1-5	15	12.00	41580.00	25
09B	Cole Rd	Blairton Rd W to 2nd Concession	G	1.500	57	Add gravel; ditching; brushing	Rehabilitation	1-5	10	10.00	115500.00	25
72M	Penninsula Rd	North Shore Rd to FR 80d	G	3.500	64	Add gravel; ditching; brushing	Rehabilitation	1-5	10	10.00	234850.00	25
24B	7th Concession Rd	County Rd 48 to 1.2km N of County Rd 48	G	1.220	61	Add gravel; ditching; brushing	Rehabilitation	1-5	10	10.00	84546.00	25
07B	Queen St (Blairton)	Blairton Rd. W to dead end	LCB	0.100	55	Pulverize; add gravel; double surface treatment	Rehabilitation	Now	10	12.00	7920.00	25
18H	William St	Ottawa St (Hwy 7) to Mathison St E	HCB	0.210	67	Pulverize and pave	Rehabilitation	1-5	20	27.00	77962.50	25
15B	5th Concession Rd	County Rd 48 S to dead end	G	0.330	53	Add gravel; ditching; brushing	Rehabilitation	Now	20	37.00	81929.10	24
67M(a)	Stoney Point Rd	1.1km from West Kosh to end at Marina	G	0.900	68	Add gravel; ditching; brushing	Rehabilitation	1-5	10	10.00	69300.00	24
62M	East Posts Rd	Posts Rd E to County Rd 46	LCB	0.260	54	Pulverize; add gravel; double surface treatment	Rehabilitation	Now	15	12.00	24024.00	24
69M	Blue Mountain Rd	West Kosh Rd to dead end (Kosh Lk)	G	0.600	59	Add gravel; ditching; brushing	Rehabilitation	1-5	10	10.00	51480.00	24
07H	Alexander St	County Rd 46 to Union St.	HCB	0.350	63	Pulverize and pave	Rehabilitation	1-5	20	27.00	114345.00	23
60M	Vansickle Trail	County Rd 46 to dead end	G	0.570	58	Add gravel; ditching; brushing	Rehabilitation	1-5	10	10.00	34485.00	23
26B	Weller Rd	County Rd 48 to Hwy 7	G	0.600	66	Add gravel; ditching; brushing	Rehabilitation	1-5	10	10.00	49500.00	22
53B	Vansickle Rd	FR 59 (N end of Cordova Lk N) to dead end	G	3.400	63	Add gravel; ditching; brushing	Rehabilitation	1-5	10	10.00	168300.00	22
08B	Blairton Rd	Hwy 7 S to dead end	G	0.100	58	Add gravel; ditching; brushing	Rehabilitation	1-5	10	10.00	5500.00	22
27B	Weller Rd	Hwy 7 S to Concession Rd 8	G	0.515	66	Add gravel; ditching; brushing	Rehabilitation	1-5	10	10.00	39655.00	22
32B	10th Concession Rd	County Rd 42 to Old Norwood Rd	G	3.100	65	Add gravel; ditching; brushing	Rehabilitation	1-5	10	10.00	279620.00	21
42B(A)	Church Rd	County Rd 46 to East of County Rd 44	G	1.530	65	Add gravel; ditching; brushing	Rehabilitation	1-5	10	10.00	109395.00	21
42B(C)	Church Rd	10th Concession Rd to train tracks	G	1.180	65	Add gravel; ditching; brushing	Rehabilitation	1-5	10	10.00	84370.00	21
42B(B)	Church Rd	County Rd 44 to train tracks	LCB	0.170	65	Pulverize; add gravel; double surface treatment	Rehabilitation	1-5	15	12.00	15708.00	21
55B	1st Concession Rd	County Rd 48 N to dead end	G	0.940	63	Add gravel; ditching; brushing	Rehabilitation	1-5	10	10.00	59972.00	21
66M	Holdcroft Rd	West Kosh Rd to dead end (Kosh Lk)	G	0.500	62	Add gravel; ditching; brushing	Rehabilitation	1-5	10	10.00	33000.00	21
40B	10th Concession Rd	North School Rd to Church Rd	G	2.400	64	Add gravel; ditching; brushing	Rehabilitation	1-5	10	10.00	171600.00	21
41B	10th Concession Rd	Church Road to dead end	G	1.900	64	Add gravel; ditching; brushing	Rehabilitation	1-5	10	10.00	135850.00	21
18B	4th Concession Rd	2.3km S of Hwy 7 to Seymour Twp. Boundary	G	1.000	67	Add gravel; ditching; brushing	Rehabilitation	1-5	20	10.00	68200.00	20
35B (b)	11th Concession Rd	County Rd 42 to Old Norwood Rd	G	3.200	67	Add gravel; ditching; brushing	Rehabilitation	1-5	10	10.00	281600.00	20

HBM 2020 Road Needs Study
Rehabilitation Projects by Priority Rating

Section Number	Road Name	From/To	Surface Type	Length (km)	Total Rating	Recommended Improvement	Need	Time of Need	Service Life	Improvement Unit Cost	Improvement Cost	Condition Priority
44B	Hubble Rd	County Rd 44 N junction to S junction	G	4.550	63	Add gravel; ditching; brushing	Rehabilitation	1-5	10	10.00	225225.00	20
15H	Orange St	Ottawa St to George St	HCB	0.100	68	Pulverize and pave	Rehabilitation	1-5	20	27.00	39501.00	17

HBM 2020 Road Needs Study
Reconstruction Projects by Prioroity Rating

Section Number	Road Name	From/To	Surface Type	Length (km)	Total Rating	Recommended Improvement	Need	Time of Need	Service Life	Improvement Unit Cost	Improvement Cost	Condition Priority
13B	3rd Concession Rd	Hwy 7 N to County Rd 48	LCB	2.830	45	Rural Reconstruction	Reconstruct	Now	25	42.00	810625.20	40
12B	Dewey Rd (Boundary Rd)	2nd Concession to dead end	G	0.770	44	Rural Recon - gravel only	Reconstruct	Now	20	37.00	188034.00	32
59M	Devils 4 Mile Rd	County Rd 46 to Vansickle Rd	G	7.400	43	Rural Recon - gravel only	Reconstruct	Now	20	37.00	1355310.00	30
75M	Tangamong Rd	Sandy Lake Rd to dead end at lake	G	3.400	48	Rural Recon - gravel only	Reconstruct	Now	20	37.00	761090.00	28

Appendix E: Five-Year Capital Funding Plan

HBM 2020 Road Needs Study
5-Year Capital Plan

Section Number	Road Name	From/To	Surface Type	Length (km)	Recommended Improvement	Need	Time of Need	Improvement Cost	Condition Priority	2021	2022	2023	2024	2025
13B	3rd Concession Rd	Hwy 7 N to County Rd 48	LCB	2.830	Rural Reconstruction	Reconstruct	Now	810625.20	40		$ 810,625.20			
11B	2nd Concession Rd	Hwy 7 to Dewey Rd	G	3.100	Add gravel; ditching; brushing	Rehabilitation	1-5	255750.00	34			$ 255,750.00		
52B	Van Sickle Rd	County Road 48 N to FR 59 (N of Cordova Lk)	LCB	7.000	Pulverize; add gravel; double surface treatment	Rehabilitation	1-5	785400.00	33				$ 785,400.00	
16B	Sawmill Bay	County Rd 48 N to dead end at FR30	LCB	0.700	Pulverize; add gravel; double surface treatment	Rehabilitation	Now	74844.00	32	$ 74,844.00				
70M	Unimin Road	County Rd 46 to mine	LCB	1.300	Pulverize; add gravel; double surface treatment	Rehabilitation	1-5	163020.00	32			$ 163,020.00		
12B	Dewey Rd (Boundary Rd)	2nd Concession to dead end	G	0.770	Rural Recon - gravel only	Reconstruct	Now	188034.00	32			$ 188,034.00		
21H	Industrial Dr	Mary St to Rotary Park	HCB	0.450	Pulverize and pave	Rehabilitation	1-5	90882.00	32			$ 90,882.00		
10H	Elm St	Ottawa St (Hwy 7) to Ontario St	HCB	0.055	Mill and pave - urban overlay - rural	Resurface	Now	18646.10	27	$ 18,646.10				
47B	N Belmont 7th Line	Round Lake Rd to dead end	G	0.200	Rural Recon - gravel only	Rehabilitation	Now	56980.00	27					$ 56,980.00
46B	Round Lake Rd	County Rd 46 to 3km East of County Rd 46	LCB	3.800	Double surface treatment	Resurface	Now	310992.00	27	$ 310,992.00				
51B	Bowen Rd	County Rd 48 S & E to Crowe River	G	4.400	Add gravel; ditching; brushing	Rehabilitation	Now	266200.00	27					$ 266,200.00
05B	Blairton Rd	0.8km North of Cole Rd.	G	1.300	Add gravel; ditching; brushing	Rehabilitation	Now	92950.00	27					$ 92,950.00
29B	8th Concession Rd	Old Norwood Rd to 0.8km S of Old Norwood Rd	LCB	1.800	Pulverize; add gravel; double surface treatment	Rehabilitation	1-5	173448.00	27					$ 173,448.00
11H	Quebec St	Ottawa St (Hwy 7) to Ontario St	HCB	0.050	Mill and pave - urban overlay - rural	Resurface	1-5	14421.00	27	$ 14,421.00				
01B	1st Line	Boundary Rd. to Hwy. 7	G	1.000	Add gravel; ditching; brushing	Rehabilitation	1-5	77000.00	26					$ 77,000.00
29H	Mill Ln	Ottawa St to George St	HCB	0.100	Pulverize and pave	Rehabilitation	Now	14256.00	26	$ 14,256.00				
34B(a)	Old Norwood Rd	Concession 10 to Concession 11	LCB	1.440	Pulverize; add gravel; double surface treatment	Rehabilitation	1-5	146361.60	25	$ 146,361.60				
										$ 579,520.70	$ 810,625.20	$ 697,686.00	$ 785,400.00	$ 666,578.00
														$ 3,539,809.90

Appendix F: Benchmark Improvement Costs

Benchmark Improvement Costs

Preventative Maintenance

Add gravel*	$40,000/km

Resurfacing

Double Surface Treatment	$8.00/sq. metre
Mill and Pave (single lift)	$140,000/km

Rehabilitation

Add gravel, Ditch, Brush	$10/sq. metre
Pulverize, Add Gravel, Double Surface	$12.00/sq. metre
Pulverize and Pave (single lift)	$160,000/km

Reconstruction

Rural Reconstruction – gravel only	$220,000/km
Rural Reconstruction	$400,000/km
Urban Reconstruction	$800,000/km

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HAVELOCK-BELMONT-METHUEN ROADS NEEDS STUDY

FIGURE 1 - ROADS BY SURFACE TYPE

DRAWN:	APPROVED:	SCALE:	DATE:	PROJECT No.:
A.L.	P.HURLEY	1:50,000	2021-05-05	20040

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