Transportation Asset Management Plan

Township of McNab/Braeside

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List of Acronyms and Abbreviations

O. Reg.	Ontario Regulation
PCI	Pavement Condition Index

1. Introduction

The purpose of this asset management plan is to bring the Township into compliance with the July 1, 2022 requirements of Ontario Regulation (O. Reg.) 588/17. The plan covers core assets as defined in the regulation (i.e., roads, bridges and culverts, water, wastewater, and stormwater). The County of Renfrew (County) has jurisdictional control over all bridges and major culverts within its boundaries. Therefore, all bridges and major culverts within the Township are included in the County's asset management plan. There are no municipal water, wastewater or stormwater assets in the Township. Thus, the analysis of transportation assets covers all of the Township's core assets. The scope of the analysis in this plan is limited to the requirements of O. Reg. 588/17. The Township intends to develop a comprehensive asset management plan, including a comprehensive financial strategy by July 1, 2025 as required by O. Reg. 588/17.

The asset management plan has four main sections. The State of Local Infrastructure section provides inventory and condition information for transportation assets. The Levels of Service Framework section describes how the performance of transportation assets will be measured and reports the current performance. The Lifecycle Management Strategies section describes how transportation assets will be managed to maintain current levels of service. Finally, the Financial Overview section summarizes the estimated annual costs of maintaining current levels of service and compares them to the current funding level.

2. State of Local Infrastructure

This chapter provides an analysis of the Township's transportation assets.

O. Reg. 588/17 requires that for each asset category included in the asset management plan, the following information must be identified:

- Summary of the assets;
- Replacement cost of the assets;
- Average age of the assets (it is noted that the Regulation specifically requires average age to be determined by assessing the age of asset components);
- Information available on condition of assets; and
- Approach to condition assessments (based on recognized and generally accepted good engineering practices where appropriate).

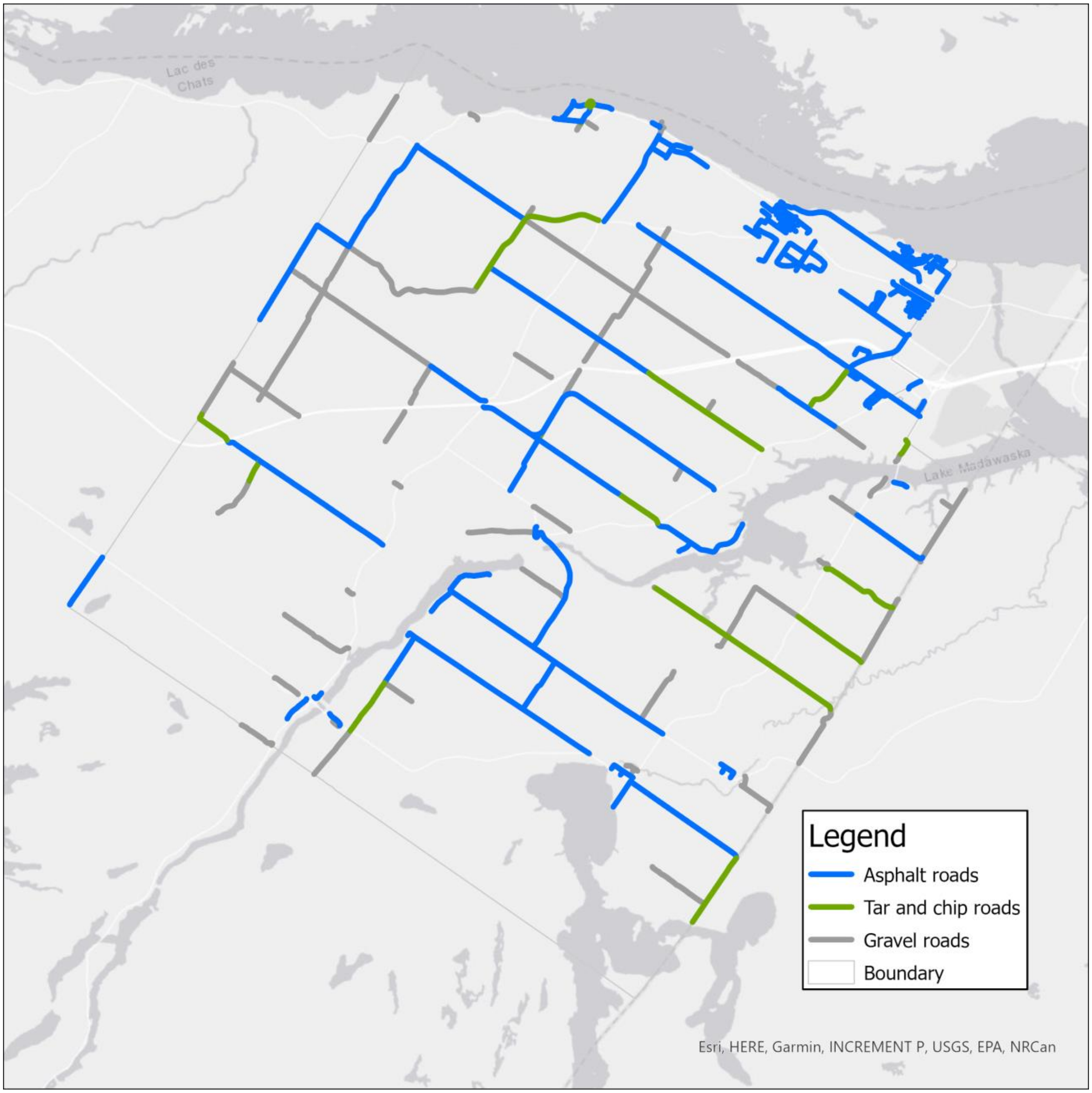
Summary information for the Township's inventory of transportation assets, organized by asset class, is provided in Table 2-1 below. The table identifies the quantity of assets included in each asset class, the average age of the assets, and their estimated replacement value. The Township shares responsibility for boundary roads with neighbouring municipalities, whereby capital lifecycle costs are shared equally between municipalities. To reflect these cost sharing arrangements, only one lane-kilometre of each boundary road (i.e., half of each boundary road) is included in this plan. Figure 2-2 shows the geographical distribution of municipal roads by surface type.

Table 2-1
Transportation Asset Inventory: Summary Information

Asset Class	Quantity	Units	Average Age	Replacement Value ($2020)
Roads – Asphalt	218.6	Lane-kilometres	8[1]	$53,280,000
Roads – Tar and Chip	45.7	Lane-kilometres	8[1]	$9,980,000
Roads – Gravel	100.8	Lane-kilometres	Not available	$15,620,000
Sidewalks	4,125	Metres	Not available	$960,000
Streetlight Fixtures	375	Number	5	$220,000
Streetlight Poles	31	Number	Not available	$90,000
Signs	648	Number	Not available	$40,000
Total				**$80,200,000**

[1] Age is based on the year in which a road was last resurfaced. This information is tracked in the Township's Tangible Capital Asset (TCA) data, which do not differentiate between asphalt and tar and chip roads. Therefore, the average age is calculated across all paved roads, and reported as the same value under both asphalt and tar and chip roads. Older resurfacing projects may not be captured in the TCA data, potentially biasing the average age downwards.

Figure 2-1
Map – Roads by Surface Type



The overall condition of hard-top roads is reported using the Pavement Condition Index (PCI). The index uses a scale from 0 to 100 with 100 being an asset in as-new condition and 0 being an asset at end-of-life. The last comprehensive condition assessment of the Township's roads was completed in 2018 through a Road Needs Study. The condition scores were updated to 2020 by assuming that asphalt roads degrade by 2.4 points per year and tar and chip roads degrade by 5 points per year. Where projects were done, the condition was increased to reflect the improvement. To better understand and interpret the index, Table 2-2 shows pictures of roads in different condition rating ranges.

Table 2-2
Road Condition States Defined with Respect to Condition

PCI Range	Condition State	Example Photo
85 < PCI ≤ 100	**Excellent**	
70 < PCI ≤ 85	**Very Good**	

PCI Range	Condition State	Example Photo
55 < PCI ≤ 70	**Good**	
40 < PCI ≤ 55	**Fair**	
25 ≤ PCI ≤ 40	**Poor**	
10 ≤ PCI ≤ 25	**Very Poor**	**No Photo Available**

PCI Range	Condition State	Example Photo
0 ≤ PCI ≤ 20	**End of Life**	**No Photo Available**

Gravel roads were assessed as a desktop exercise by public works staff on a four-point scale of Excellent, Good, Fair, and Poor. As of 2020, both paved and gravel roads had an average condition rating of Good. Figure 2-2 and Figure 2-3 show the distribution of road assets by these condition rating ranges.

Figure 2-2
Distribution of Hard-top Road Lane-kilometres by Condition Rating

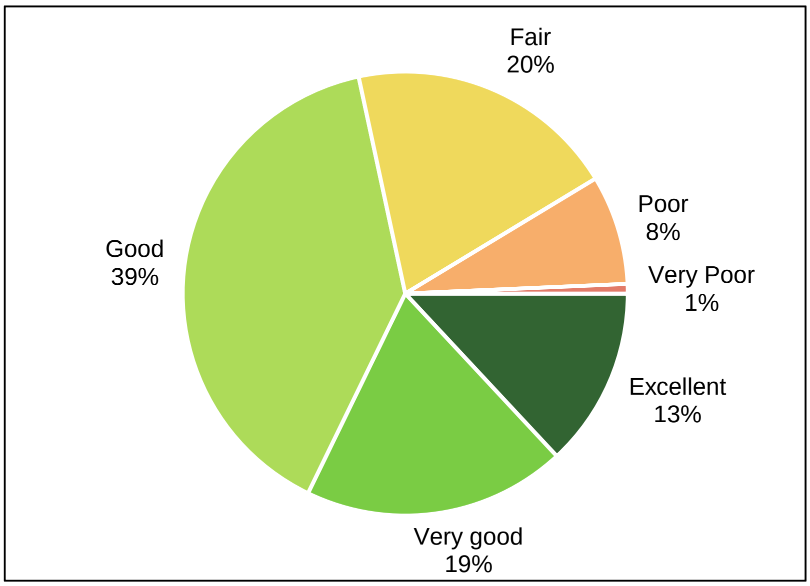
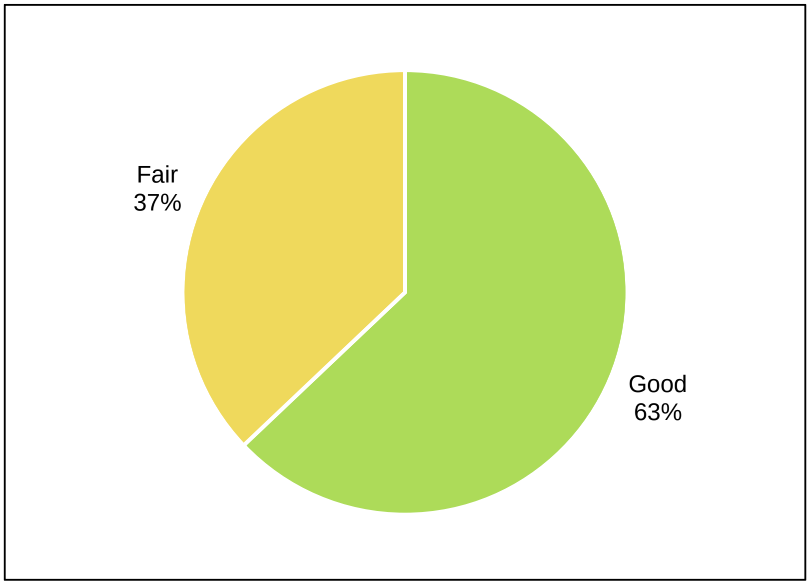
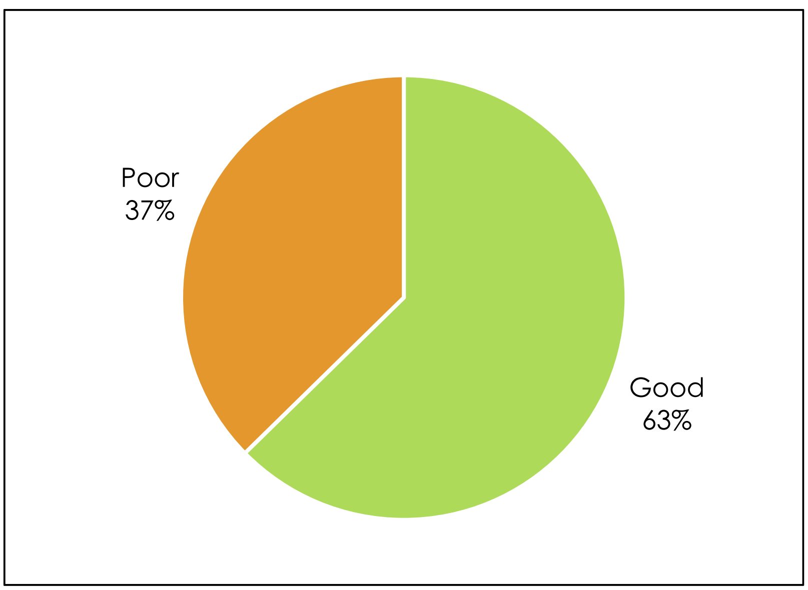


Figure 2-3
Distribution of Gravel Road Lane-kilometres by Condition Rating



A retroreflectivity inspection of signs was performed in 2020. Signs that passed the test were rated Good. Signs that failed any of the test criteria were rated Poor. Figure 2-4 shows the distribution of signs based on this condition assessment methodology.

Figure 2-4
Distribution of Signs by Condition Rating



Condition data for sidewalks and streetlights is not currently available. To ensure streetlights are operational, deficiencies are addressed as they arise. Sidewalks are inspected annually to ensure that they comply with the requirements of O. Reg. 239/02.

3. Levels of Service Framework

The previous section of the asset management plan provided an overview of the capital assets that support provision of the Township's transportation services. The information presented in that section includes asset quantities, replacement cost valuation, age, and condition.

Physical condition of the assets is not sufficient to comprehensively capture the levels of service provided by the Township. To cover aspects of services not directly linked to asset condition, a broader levels of service framework has been developed. The levels of service framework presented in this section of the asset management plan contains the following elements:

- Service attributes which identify relevant aspects or characteristics of a service;
- Level of service statements which describe service attributes from a non-technical point of view; and
- Performance measures which enable quantitative measurement to support the level-of-service statements.

For each performance measure, the current performance is reported. The Township will track and report on the current performance on an annual basis. In the future, targets for each performance measure will be chosen that balance regulatory requirements, the needs and expectations of service users, and various external trends and pressures, with the cost of delivering the service.

Table 3-1 identifies relevant service attributes and defines the community levels of service for each of those attributes. The service attributes are intended to capture all major aspects that are of interest to the users of the service. The community levels of service include qualitative information such as images of assets providing different levels of service and maps, as well as statements describing what the Township intends to deliver, generally described from the user's perspective. Table 3-2 describes the performance measures connected to each of the service attributes and identifies the current performance for each performance measure.

Table 3-1
Community Levels of Service – Transportation

Service Attribute	Community Levels of Service
Scope	Residents and visitors use the Township's transportation network to travel from properties to local amenities and regional county and provincial roads. The Township's transportation network also supports various recreational activities, including the use of recreational vehicles, such as ATVs and snowmobiles, cycling, and walking. Various municipal services also rely on the road network, including road maintenance by public works, garbage and recycling collection, and emergency services. Examples of businesses that use the road network include agriculture and forestry. For agriculture, transportation services support both relocation of farming equipment and shipping & receiving. Forestry uses the road network for timber transport.
	The scope of the Township's road network is illustrated by the map in Figure 2-1. The map shows the geographical distribution of municipal roads by surface type.
Quality	The Township's road network has adequate surface quality that meets the needs of most users of the roads system.
	Example photos of roads in different condition states are shown in Table 2-2.
Capacity	The Township's transportation network provides support to alternative transportation modes on higher traffic roads.

Table 3-2
Technical Levels of Service – Transportation

Service Attribute	Performance Measure	2020 Performance
Scope	Number of lane-kilometres of arterial roads as a proportion of square kilometres of land area of the municipality.	0
	Number of lane-kilometres of collector roads as a proportion of square kilometres of land area of the municipality.	0.753
	Number of lane-kilometres of local roads as a proportion of square kilometres of land area of the municipality.	0.675
	Number of signs per lane-kilometre of road.	1.8
	Number of streetlights per lane-kilometre of road.	1.03
	Length of sidewalk (metres) per lane-kilometre of road.	11.3
Quality	Average[1] pavement condition index of paved roads.	67
	Average[2] surface condition of unpaved roads.	Good
	Lane-kilometers of paved roads with PCI less than 40.	31.7 (12% of total)
	Lane-kilometres of unpaved roads with condition rating of poor.	0
Capacity	Lane-kilometres of roads with shoulders designed to support cycling.	2.8

Population and Employment Growth

Based on the Township's 2019 Development Charges (D.C.) Background Study, the Township's population was projected to increase from approximately 7,888 in 2018 to 8,401 by 2028.

[1] Weighted average with respect to lane-kilometres of paved roads.
[2] Weighted average with respect to lane-kilometres of unpaved roads.

This population growth is expected to result in incremental service demands that may impact the current level of service. In anticipation of these incremental service demands, the Township is planning to upgrade approximately 10.6 km of roads from LCB to HCB surface, expand the profile of approximately 8.7 km of roads, and expand the active transportation network by adding paved shoulders to approximately 0.09 km of roads. These growth-related capital projects are summarized in the Township's 2019 D.C Background Study and are partially funded through development charges imposed on new development. Utilizing development charges helps ensure that the effects of future population and employment growth do not increase the cost of maintaining levels of service for existing tax and rate payers. However, it is noted that while the initial upgrade or extension of assets will be funded from development charges, the incremental lifecycle costs of maintaining these upgraded assets will need to be reflected in the Township's financial strategy and future updates of the asset management plan.

4. Lifecycle Management Strategies

4.1 Introduction

This section details the lifecycle management strategies required to maintain the current levels of service presented in Section 1 for transportation assets. Lifecycle activities are the actions that can be performed on assets in order to maintain service levels and extend service life.

O. Reg. 588/17 requires that multiple lifecycle options be considered, with the aim of analyzing these options in search of identifying the set of lifecycle activities that can be undertaken at the lowest cost to maintain current levels of service. Asset management plans must include a 10-year capital plan that forecasts the lifecycle activities resulting from the lifecycle management strategies.

The lifecycle management strategies for each asset class comprise two parts:

- Generalized Lifecycle Model: The first part presents a generalized lifecycle model that is used primarily for forecasting condition and budgeting. It is a stylized model that indicates typical lifecycle activities, their costs, timing, and the condition of the asset when they are performed. Significant variation from the model can be expected for individual assets.

- Decision Process: The second part presents details of the decision processes used to schedule lifecycle activities. Ideally, these methods would be objective. At this stage of asset management plan development, there is still significant subjectivity in the decision-making process.

4.2 Detailed Lifecycle Management Strategies by Asset Class

4.2.1 Asphalt Roads

Asphalt roads have been broken down into five subcategories based on number of asphalt lifts, roadside environment, and road function in the network. Table 4-1 provides the details on the subcategories.

Table 4-1
Asphalt Subcategories

Subcategory	Details	Quantity (lane-kilometres)	Replacement Value ($2020)
HD Asphalt Collector	Double lift collector road	54.7	$15,050,000
HD Asphalt Local – Urban	Double lift local road; Urban roadside environment	8.5	$2,720,000
HD Asphalt Local - Rural	Double lift local road; Rural roadside environment	15.6	$4,050,000
Asphalt Local – Class 4/5	Single lift local road; MMS class 4 and 5	80.3	$18,070,000
Asphalt Local – Class 6	Single lift local road; MMS class 6	59.5	$13,390,000
Total		**218.6**	**$53,280,000**

HD Asphalt Collector

Table 4-2 and Table 4-3 show the parameters of the generalized lifecycle model for HD Asphalt Collector roads. Average annual lifecycle capital costs are $6,800 per lane-kilometre. Annual operating costs are $650 per lane-kilometre. Combined, this results in total average annual lifecycle costs of $7,450 per lane-kilometre. With 54.7 kilometres of roads in this subcategory, the total average annual lifecycle cost is $408,000

Table 4-2
Generalized Lifecycle Model for HD Asphalt Collector Roads: Capital

Activity Description	Cost per Lane-kilometre	Average Annual Cost per Lane-kilometre	Age	Condition / Performance
Asphalt milling and 40mm asphalt overlay	$60,000	$600	20	PCI - 55
Asphalt milling and 40mm asphalt overlay	$60,000	$600	35	PCI ~ 55
Replace asphalt (90mm) & spot depth reconstruction	$165,000	$1,650	50	PCI ~ 40
Asphalt milling and 40mm asphalt overlay	$60,000	$600	70	PCI - 55
Asphalt milling and 40mm asphalt overlay	$60,000	$600	85	PCI ~ 55
Full-depth reconstruction	$275,000	$2,750	100	PCI ~ 40
Total	**$680,000**	**$6,800**		

Table 4-3
Generalized Lifecycle Model for HD Asphalt Collector Roads: Operating

Activity Description	Cost per Lane-kilometre
Patching potholes	$257
Crack sealing	$18
Road sweeping	$48
Line Painting	$119
Ditching / Brushing	$170
Grass Cutting	$37
Total	**$650**

HD Asphalt Local - Urban

Table 4-4 and Table 4-5 show the parameters of the generalized lifecycle model for HD Asphalt Local - Urban roads. Annual operating costs are $650 per lane-kilometre. Average annual lifecycle capital costs are $5,960 per lane-kilometre. Combined, this results in total average annual lifecycle costs of $6,610 per lane-kilometre. With 8.5

kilometres of roads in this subcategory, the total average annual lifecycle cost is $56,000

Table 4-4
Generalized Lifecycle Model for HD Asphalt Local – Urban: Capital

Activity Description	Cost per Lane-kilometre	Average Annual Cost per Lane-kilometre	Age	Condition / Performance
Asphalt milling and 40mm asphalt overlay	$60,000	$500	25	PCI - 55
Asphalt milling and 40mm asphalt overlay	$60,000	$500	40	PCI ~ 55
Replace asphalt (90mm) & spot depth reconstruction	$155,000	$1,290	60	PCI ~ 40
Asphalt milling and 40mm asphalt overlay	$60,000	$500	85	PCI - 55
Asphalt milling and 40mm asphalt overlay	$60,000	$500	100	PCI ~ 55
Full-depth reconstruction	$320,000	$2,670	120	PCI ~ 40
Total	**$715,000**	**$5,960**		

Table 4-5
Generalized Lifecycle Model for HD Asphalt Local – Urban: Operating

Activity Description	Cost per Lane-kilometre
Patching potholes	$257
Crack sealing	$18
Road sweeping	$48
Line Painting	$119
Ditching / Brushing	$170
Grass Cutting	$37
Total	**$650**

HD Asphalt Local - Rural

Table 4-6 and Table 4-7 show the parameters of the generalized lifecycle model for HD Asphalt Local - Rural roads. Average annual lifecycle capital costs are $6,350 per lane-kilometre. Annual operating costs are $650 per lane-kilometre. Combined, this results in total average annual lifecycle costs of $7,000 per lane-kilometre. With 15.6 kilometres of roads in this subcategory, the total average annual lifecycle cost is $109,000

Table 4-6
Generalized Lifecycle Model for HD Asphalt Local – Rural: Capital

Activity Description	Cost per Lane-kilometre	Average Annual Cost per Lane-kilometre	Age	Condition / Performance
Asphalt milling and 40mm asphalt overlay	$55,000	$550	20	PCI - 55
Asphalt milling and 40mm asphalt overlay	$55,000	$550	35	PCI ~ 55
Replace asphalt (90mm) & spot depth reconstruction	$155,000	$1,550	50	PCI ~ 40
Asphalt milling and 40mm asphalt overlay	$55,000	$550	70	PCI - 55
Asphalt milling and 40mm asphalt overlay	$55,000	$550	85	PCI ~ 55
Full-depth reconstruction	$260,000	$2,600	100	PCI ~ 40
Total	**$635,000**	**$6,350**		

Table 4-7
Generalized Lifecycle Model for HD Asphalt Local – Rural: Operating

Activity Description	Cost per Lane-kilometre
Patching potholes	$257
Crack sealing	$18
Road sweeping	$48
Line Painting	$119
Ditching / Brushing	$170
Grass Cutting	$37
Total	**$650**

Asphalt Local – Class 4/5

Table 4-8 and Table 4-9 show the parameters of the generalized lifecycle model for Asphalt Local – Class 4/5. Average annual lifecycle capital costs are $6,200 per lane-kilometre. Annual operating costs are $650 per lane-kilometre. Combined, this results in total average annual lifecycle costs of $6,850 per lane-kilometre. With 80.3 kilometres of roads in this subcategory, the total average annual lifecycle cost is $498,000

Table 4-8
Generalized Lifecycle Model for Asphalt Local – Class 4 / 5: Capital

Activity Description	Cost per Lane-kilometre	Average Annual Cost per Lane-kilometre	Age	Condition / Performance
Replace Asphalt & spot depth reconstruction	$120,000	$1,600	25	PCI – 40
Replace Asphalt & spot depth reconstruction	$120,000	$1,600	50	PCI ~ 40
Full depth reconstruction	$225,000	$3,000	75	PCI ~ 40
Total	**$465,000**	**$6,200**		

Table 4-9
Generalized Lifecycle Model for Asphalt Local – Class 4 / 5: Operating

Activity Description	Cost per Lane-kilometre
Patching potholes	$257
Crack sealing	$18
Road sweeping	$48
Line Painting	$119
Ditching / Brushing	$170
Grass Cutting	$37
Total	**$650**

Asphalt Local – Class 6

Table 4-10 and Table 4-11 show the parameters of the generalized lifecycle model for Asphalt Local – Class 6. Average annual lifecycle capital costs are $4,430 per lane-kilometre. Annual operating costs are $650 per lane-kilometre. Combined, this results in total average annual lifecycle costs of $5,080 per lane-kilometre. With 59.5 kilometres of roads in this subcategory, the total average annual lifecycle cost is $302,000

Table 4-10
Generalized Lifecycle Model for Asphalt Local – Class 6: Capital

Activity Description	Cost per Lane-kilometre	Average Annual Cost per Lane-kilometre	Age	Condition / Performance
Replace Asphalt & spot depth reconstruction	$120,000	$1,140	35	PCI – 40
Replace Asphalt & spot depth reconstruction	$120,000	$1,140	70	PCI ~ 40
Full depth reconstruction	$225,000	$2,140	105	PCI ~ 40
Total	**$465,000**	**$4,430**		

Table 4-11
Generalized Lifecycle Model for Asphalt Local – Class 6: Operating

Activity Description	Cost per Lane-kilometre
Patching potholes	$257
Crack sealing	$18
Road sweeping	$48
Line Painting	$119
Ditching / Brushing	$170
Grass Cutting	$37
Total	**$650**

Decision making process for asphalt roads

The Township completes road needs studies on average every five years. Between studies, PCI values are adjusted based on degradation rates determined through a combination of historical observations and professional judgement of the public works staff. For double lift asphalt roads, a review of the road is conducted annually to determine which lifecycle repair is required based on type of observed deterioration, age, and history of repairs. The road is either added to the 10-year capital plan to complete lifecycle repair or repair is delayed until a full-depth reconstruction is done. For single lift asphalt roads, the repair activity is selected based on the age of the road and past work. Adjustments are made to the 10-year capital plan to group projects where contracting efficiency can be obtained. A proposal was included in the 2020 10-year capital plan to give high traffic volume roads a higher priority for funding.

4.2.2 Tar and Chip Roads

Table 4-12 and Table 4-13 show the parameters of the generalized lifecycle model for tar and chip roads. Average annual lifecycle capital costs are $5,470 per lane-kilometre. Annual operating costs are $630 per lane-kilometre. Combined, this results in total average annual lifecycle costs of $6,100 per lane-kilometre. With 45.7 lane-kilometres of tar and chip roads, the total average annual lifecycle cost is $250,000.

Table 4-12
Generalized Lifecycle Model for Tar and Chip Roads: Capital

Activity Description	Cost per Lane-kilometre	Average Annual Cost per Lane-kilometre	Age	Condition / Performance
Single surface treatment overlay with fog seal	$14,625	$200	7	PCI - 65
Pulverize and double surface treatment plus spot base repairs	$45,000	$630	18	PCI - 50
Single surface treatment overlay with fog seal	$14,625	$200	25	PCI - 65
Pulverize and double surface treatment plus spot base repairs	$45,000	$630	36	PCI - 50
Single surface treatment overlay with fog seal	$14,625	$200	43	PCI - 65
Pulverize and double surface treatment plus spot base repairs	$45,000	$630	54	PCI - 50
Single surface treatment overlay with fog seal	$14,625	$200	61	PCI - 65
Full Reconstruction with double surface treatment	$200,000	$2,780	72	PCI - 40
Total	**$393,500**	$5,470		

Table 4-13
Generalized Lifecycle Model for Tar and Chip Roads: Operating

Activity Description	Cost per Lane-kilometre
Patching potholes	$257
Road sweeping	$48
Line Painting	$119
Ditching / Brushing	$170
Grass Cutting	$37
Total	**$632**

Decision making process for tar and chip roads

The single surface treatment overlay with fog seal is done seven years after the last pulverize and double surface treatment. The timing and extent of base work done for the pulverize and double surface treatment is based on condition as assessed by public works staff.

4.2.3 Gravel Roads

Table 4-14 and Table 4-15 show the parameters of the generalized lifecycle model for gravel roads. Average annual lifecycle capital costs are $830 per lane-kilometre. Annual operating costs are $830 per lane-kilometre. Combined, this results in total average annual lifecycle costs of $1,660 per lane-kilometre. With 100.8 lane-kilometres of gravel roads, the total average annual lifecycle cost is $167,000.

Table 4-14
Generalized Lifecycle Model for Gravel Roads: Capital

Activity Description	Cost per Lane-kilometre	Average Annual Cost per Lane-kilometre	Age	Condition / Performance
Add granular material (100mm) & reshaping surface	$9,900	$830	12	Not applicable
Total	**$9,900**	**$830**		

Table 4-15
Generalized Lifecycle Model for Gravel Roads: Operating

Activity Description	Cost per Lane-kilometre
Grading	$394
Dust control	$231
Ditching / Brushing	$170
Grass Cutting	$37
Total	**$832**

Decision making process for gravel roads

The decision on when to add granular material to a gravel road is based on observations by public works staff.

4.2.4 Transportation related assets

For sidewalks, streetlights, and signs, the expected useful life determines long-run funding needs. Table 4-16 shows the lifespans assumed for each of these asset classes and the resultant average annual lifecycle cost. The total average annual lifecycle cost for these assets is $39,000.

Table 4-16
Generalized Lifecycle Model for Transportation Related Assets

Asset Class	Useful Life (years)	Replacement Value	Average Annual Lifecycle Cost
Sidewalks	40	$960,000	$24,000
Streetlight fixtures	22	$220,000	$10,000
Streetlight poles	40	$90,000	$2,300
Signs	15	$40,000	$2,700
Total		**$1,310,000**	**$39,000**

4.3 Ten-year Capital Plan

The Township reviews and updates a 10-year capital forecast for paved roads as part of the annual budget process. Selection of roads to include in the 10-year capital forecast is based on the lifecycle management strategies described in the preceding subsections of this plan. The most recent update of the 10-year capital forecast was presented to Council on September 30, 2020 and included a listing of road segments to be addressed over the 10-year forecast period from 2021 to 2030. The proposed capital spending by year is summarized in Table 4-17 below. The average annual capital spending over the 2021-2030 period is $1.4 million ($2020).

Table 4-17
Ten-year (2021-2030) Capital Roads Plan

Year	Proposed Capital Spending (2020$)
2021	$1,604,594
2022	$1,213,769
2023	$1,209,537
2024	$1,228,465
2025	$1,758,994
2026	$1,525,839
2027	$1,219,837
2028	$1,262,155
2029	$1,606,162
2030	$1,370,017

The detailed capital forecast is not included in this asset management plan because, as noted above, it is updated by the Township annually as part of the budget process. However, in the next section a comparison is made between the average annual capital spending proposed in the Township's 10-year capital forecast and the level of capital spending suggested by the lifecycle management strategies identified earlier in this section.

5. Financial Overview

Table 5-1 shows the average annual operating and capital costs identified in section 4 and the respective totals. The total average annual capital funding required to maintain current levels of service is approximately $1.62 million. As discussed in the previous section, the most recent 10-year capital plan for roads identified proposed capital spending averaging $1.40 million annually. This level of proposed capital spending is fully funded through a combination of Gas Tax revenues, property taxes, and capital replacement reserves. In addition to this, the operating budget includes $83,000 for regravelling gravel roads, $5,000 for maintaining streetlights, and $3,000 for replacing signs. Therefore, of the $1.62 million identified as the long-term funding need, $1.49 million is already funded. In other words, the lifecycle management strategies presented in section 4 are approximately 92% funded. A detailed financial strategy, including an assessment of how this current lifecycle funding gap can be eliminated, will be included in the Township's asset management plan by July 1, 2025 as required by O. Reg. 588/17.

Table 5-1
Summary of Average Annual Lifecycle Costs

Asset Class	Operating	Capital	Total
Roads – Asphalt	$142,000	$1,283,000	$1,425,000
Roads – Tar and Chip	$29,000	$250,000	$279,000
Roads – Gravel	$84,000	$83,000	$167,000
Sidewalks, streetlights (including fixtures and poles), and signs	$0	$39,000	$39,000
Total	$255,000	$1,616,000	$1,871,000

6. Conclusions and Next Steps

This asset management plan provides an overview of the Township's transportation assets, establishes a levels of service framework for ongoing tracking and reporting on asset performance, and lays out the lifecycle management strategies employed by the

Township in maintaining current levels of service. In doing so, this asset management plan identifies the average annual lifecycle funding required to maintain current levels of service for transportation services.

Over the coming years, the Township will expand the asset management plan to include all municipal assets by July 1, 2024. Furthermore, the asset management plan will need to include proposed levels of service and a detailed financial strategy by July 1, 2025.

It is recommended that Council approve this asset management plan and begin reviewing on an annual basis the Township's asset management progress. This annual review of progress should include reviewing the current performance for each of the performance measures identifies in Table 3-2.