

Memorandum

To	Kelly Coughlin
From	Peter Simcisko and Stephen Monrad
Date	April 9, 2024
Re:	AMP it Up 3.0 results for asset management

Fax Courier Mail Email

Through the Municipal Financial Officers' Association's AMP it Up 3.0 program, Watson & Associates Economists Ltd. (Watson) is assisting the Township of Admaston/Bromley (Township) with asset management work currently underway. This Memorandum documents work completed by Watson related to road replacement cost estimates, lifecycle management strategies, average annual lifecycle costs, and capital funding capacity.

Road Replacement Cost

The Township asked Watson to review the replacement cost estimate of its road network in its 2022 asset management plan, which was \$25.0 million in 2022 dollars. Based on Watson's analysis, the total estimated replacement cost of Township's roads is \$68.3 million in 2022 dollars, an increase of 173%. Adjusting to 2024 dollars results in an estimate of \$79.84 million, a further increase of 17%. Table 1 shows replacement cost per kilometre, length of road, and total replacement cost broken down by surface type, in 2024 dollars.

Table 1: Road Replacement Cost by Surface Type

Surface Type	Replacement Cost per Centre-line kilometre (2024\$)	Length of road (km)	Replacement Cost (2024\$)
Paved Roads			
HCB	\$520,000	70.35	\$36,582,000
LCB	\$443,000	64.49	\$28,569,000
Total Paved Roads		134.84	\$65,151,000
Unpaved Roads			
Gravel	\$76,000	193.22	\$14,685,000
Total Unpaved Roads		193.22	\$14,685,000
Total All Roads		328.06	\$79,836,000



The replacement cost per centre-line kilometre shown in Table 1 are based on costs and quantities reported in the Township of Bonnechere Valley (2021) and the Township of Horton (2022) asset management plans. The replacement cost per centreline kilometre estimates were adjusted to 2024 dollars using Statistics Canada’s Non-residential Building Construction Price Index.^[1]

Information from three other asset management plans (Township of Whitewater Region, Town of Renfrew, and Township of Greater Madawaska) was included in the raw data collected by Watson. It was not used because it was not possible to differentiate between costs for roads with HCB and LCB surfaces; surface type has a significant impact on the replacement cost estimate. The raw asset management plan data and analysis is provided in the file: “Roads Costing - Renfrew Area - Final.xlsx”

Lifecycle Management Strategies – Core Assets

Roads

Watson facilitated a workshop to document lifecycle management strategies for roads, including a brief introduction to lifecycle management strategies (see “LMS Workshop - AdmastonBromley.pdf”). A summary of the resulting average annual lifecycle costs is shown in Table 2. The details of the strategies, including notes on the decision making process, are provided in the file: “LMS - Roads - AdmastonBromley – Final.xlsx.”

[1] Source: Statistics Canada. Table 18-10-0276-02 Building construction price indexes, by type of building



Table 2: Summary of Roads Average Annual Lifecycle Costs

Road Type	Average Annual Costs per Centreline-kilometre (2024\$)			Centerline-km	Total Average Annual Costs (2024\$)		
	Operating	Capital	Total		Operating	Capital	Total
HCB	\$2,681	\$8,333	\$11,015	70.35	\$188,641	\$586,250	\$774,891
LCB	\$1,544	\$21,445	\$22,989	64.49	\$99,591	\$1,382,961	\$1,482,552
Gravel - winter maintenance	\$3,227	\$0	\$3,227	153.22	\$494,406	\$0	\$494,406
Gravel - no winter maintenance	\$1,863	\$0	\$1,863	40.00	\$74,526	\$0	\$74,526
Total				328.06	\$857,165	\$1,969,211	\$2,826,376



Lifecycle Management Strategies – Non-core Assets

Watson worked with Township staff to develop lifecycle management strategies for non-core assets. The detailed data for all non-core assets is contained in the file: “Average Annual Lifecycle Cost Estimates - Final.xlsx.”

Facilities

The Township currently manages its facilities through the annual budget process. Facility managers identify capital needs for potential inclusion in the next year’s capital budget. Going forward, the Township is considering having a third party complete formal facility condition assessments, which would include development of a 10-year capital forecast for facilities.

To estimate average annual lifecycle costs for facilities, replacement costs were estimated to be \$12.6 million based on building size in the Township’s 2022 asset management plan and the 2024 Altus Group Canadian Cost Guide unit costs (taking the midpoint of the ranges provided). The average annual lifecycle cost can be estimated using this estimate of replacement costs and reinvestment rate ranges recommended in the 2016 Canadian Infrastructure Report Card. Reinvestment rate is defined to be the percentage of an asset’s replacement cost that needs to be reinvested annually on average to maintain an asset over time. For facilities, the recommended range is 1.7% to 2.5% of replacement cost, the midpoint being 2.1%. Using this methodology, the average annual lifecycle cost for facilities was estimated to be approximately \$264,000.

Vehicles and Equipment

The Township uses the acquisition year and expected useful life of vehicles and equipment to forecast replacements. During the budget process, this forecast is reviewed by department staff to confirm whether items nearing the end of their theoretical useful life do in fact need to be replaced or whether they can be kept in service longer. The review process currently relies on subjective assessments by staff.

Average annual lifecycle costs were estimated based on historical costs and useful life assumptions contained in the Township’s Tangible Capital Assets Inventory. Costs were adjusted for inflation using the Non-residential Building Construction Price Index. Using this methodology, the average annual lifecycle costs for vehicles and equipment were estimated to be approximately \$492,000 and \$125,000, respectively.

Summary of Replacement Cost and Average Annual Lifecycle Costs

The replacement cost of the Township’s roads, facilities, vehicles, and equipment were estimated to be \$99.6 million as part of the process of estimating average annual lifecycle costs. Based on the lifecycle analysis above, average annual lifecycle costs for these assets are approximately \$2.85 million. This is the amount of capital funding required annually to fund the lifecycle activities identified in the lifecycle management



strategies in the long run. Table 3 provides a breakdown of replacement cost and average annual lifecycle cost by asset type, with the distribution of these quantities by asset type presented in Figure 1 and Figure 2.

Table 3: Current Replacement Cost and Average Annual Lifecycle Cost by Asset Type

Asset Type	Replacement Cost (2024\$)	Average Annual Lifecycle Costs (2024\$)
Roads	\$79,836,000	\$1,969,211
Facilities	\$12,573,458	\$264,043
Vehicles	\$6,021,821	\$492,447
Equipment	\$1,125,723	\$124,997
Total	\$99,557,002	\$2,850,697

Figure 1: Distribution of Replacement Cost by Asset Type

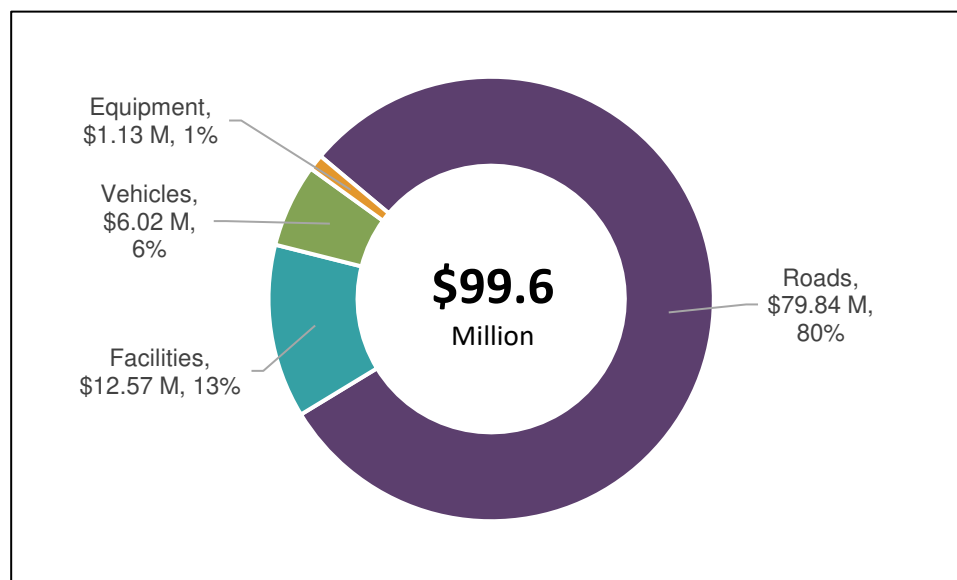
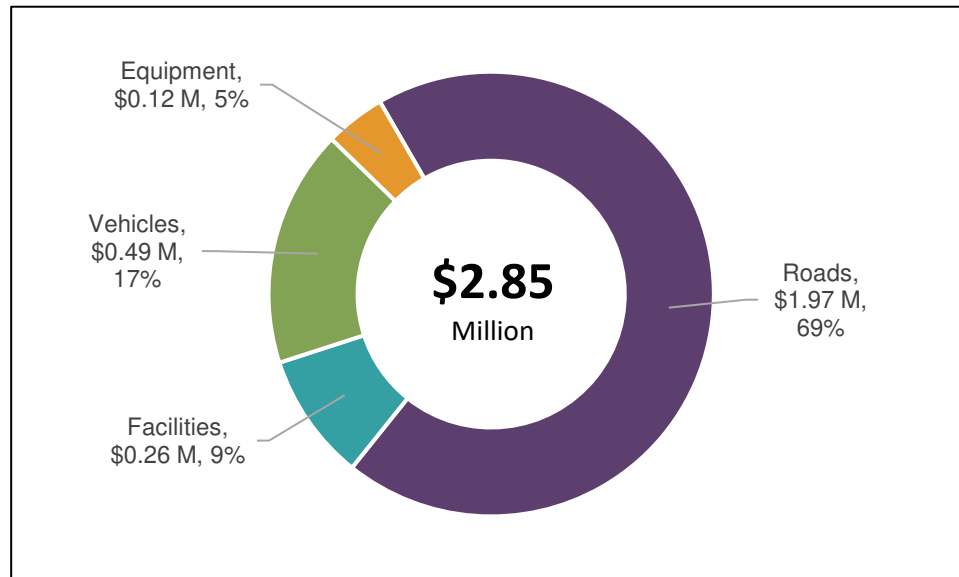




Figure 2: Distribution of Average Annual Lifecycle Cost by Asset Type



Capital Funding Capacity

Based on the Township's draft 2024 capital budget and other financial documents provided by the Township, the Township's current capital funding capacity is estimated to be \$1.28 million. This funding comprises taxation (\$257,812), OCIF and CCBF (\$586,484), contributions to capital reserves (\$70,000), and current debt servicing (\$368,529). The \$1.28 million in current funding capacity is approximately 45% of the estimated average annual lifecycle cost of \$2.85 million. The difference, the annual lifecycle funding gap, is \$1.57 million.