

## Executive Summary

In December 2015, the Municipality of Jasper completed a Strategic Level Asset Management Report. This was a desktop analysis based on theoretical service life of the infrastructure assets. The strategic level analysis determined a long-range funding plan designed to provide the senior administration and Council guidance on capital renewal programming needs to attain infrastructure sustainability.

This report provides the next asset management phase, which is a Tactical Level assessment and analysis. It is more detailed involving a field level assessment of the infrastructure assets and a lifecycle modeling analysis designed to maximize the value for taxpayers while ensuring infrastructure sustainability over time. It was completed for the Roadways (i.e. streets and sidewalks), wastewater collection (i.e. sanitary and storm pipes, manholes, and catch basins), and water distribution (i.e. pipes and valves)

The results of the tactical level analysis determined a short-range detailed works program for every infrastructure segment and determined the long-range funding plan required to deliver infrastructure sustainability. The following table presents the summary of both the short-range and long-range funding needs.

Asset Group	Tactical				Reserve Fund Annual Accumulation (+) building; (-) drawing (M\$/yr)	Strategic	Historic	Difference Sustainability to Budget Surplus (+); Deficit (-) (M\$/yr)
	Short-Term (5 Year) Needs Total (M\$)	Short-Term (5 Year) Needs Annual (M\$/yr)	Long-Term Sustainability Needs Annual (M\$/yr)	Long-Term Sustainability Needs Projection (M\$/yr)		Current Budget Allocation (M\$/yr)		
Roadways								
- Streets	\$2.660	\$0.532	\$0.230					
- Sidewalks	<u>\$0.375</u>	<u>\$0.075</u>	<u>\$0.074</u>					
Sub-Total	\$3.035	\$0.607	\$0.304	-\$0.303	\$1.220	\$0.710	\$0.406	
Wastewater								
- Collection	\$0.636	\$0.127	\$0.201					
- Treatment	<u>TBD</u>	<u>TBD</u>	<u>\$0.415</u>					
Sub-Total	\$0.636	\$0.127	\$0.616	\$0.489	\$0.730	\$0.130	-\$0.486	
Water								
- Distribution	\$2.500	\$0.500	\$1.309					
- Treatment	<u>TBD</u>	<u>TBD</u>	<u>\$0.332</u>					
Sub-Total	<u>\$2.500</u>	<u>\$0.500</u>	<u>\$1.641</u>	\$1.141	<u>\$0.940</u>	<u>\$0.310</u>	<u>-\$1.331</u>	
<b>Total</b>	<b>\$6.171</b>	<b>\$1.234</b>	<b>\$2.561</b>	<b>\$1.327</b>	<b>\$2.890</b>	<b>\$1.150</b>	<b>-\$1.411</b>	

The roadways streets have the most immediate need with a pavement open surface texture that can largely be addressed by a cost effective a mid-life preservation (i.e. micro-surfacing) treatment. The sanitary piping has some immediate needs that again could largely be addressed by cost effective mid-life (i.e. cured in place liner) treatment. However, the greater needs for both the sanitary and storm water collection system are expected in approximately 30-40 years respectively. The water distribution system is in relatively good condition given the age of the cast-iron piping network. However, the associated valves are running on a different lifecycle than the pipes they are connected too. The model is forecasting the risk of valve failure and allocating expenditures on associated emergency repair. As a result, valve repairs are the water main short-term expenditure needs. Water main replacement is expected to begin in approximately 14 years from now.

Overall, the Municipality should be spending \$1.234 Million/year for the short-term (i.e. 5 years) in capital renewal programming for the roadways, wastewater (storm and sanitary), and water infrastructure groups. However, to meet the long-term sustainability needs, the Municipality should be investing a total of \$2.561 Million/year. Such should be a consideration for external grant funding, tax and utility rates, and reserve funds.

Moving forward, the Municipality should be updating their infrastructure inventory GIS records. They should be developing maintenance management system to track associated works. They should be repeating the tactical level analysis every 2-4 years with greater focus on the water distribution system.