

Appendix A Environmental Conditions Analysis

Although it is very difficult to predict the winter conditions in advance, the weather data for the past ten years indicates that the snowfall amounts in Regina have been decreasing. Figures 1 and 2 below indicate this trend. The linear trendline in Figure 2 highlights the possibility of snowfall amounts dropping in the coming years if this trend continued. The data also shows that the average monthly temperatures have been rising through the years. The number of snow days have dropped to 35 days in the last five years when compared to an average of 44 days during 2009/2010 to 2013/2014 seasons.

The above factors directly impact City of Regina's (City) Winter Maintenance Program in terms of operational and financial planning. Over the past few years, the need to systematically plow the major roads in Regina has reduced from five times a season to only four times. Similarly, major blizzards that dump 25 centimetres or more during a single event are less frequent requiring winter maintenance crews to perform only one residential plow and one alley plow in a season instead of two plows performed for each activity in earlier seasons.

Figure 1: Regina Weather Trend

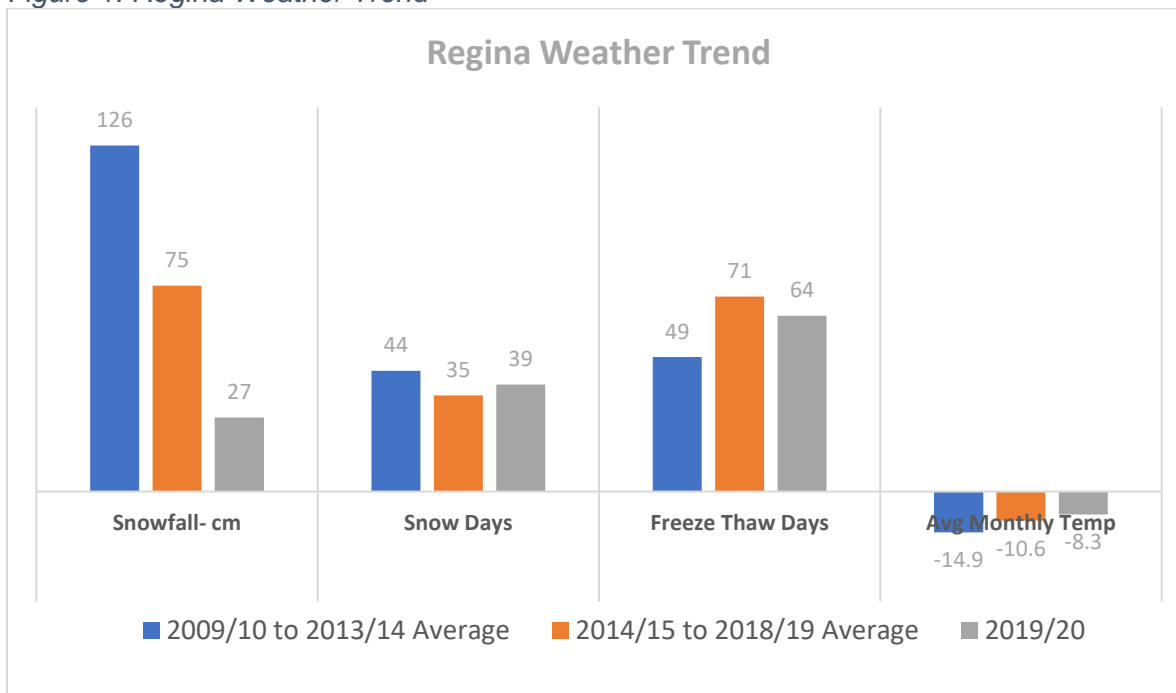
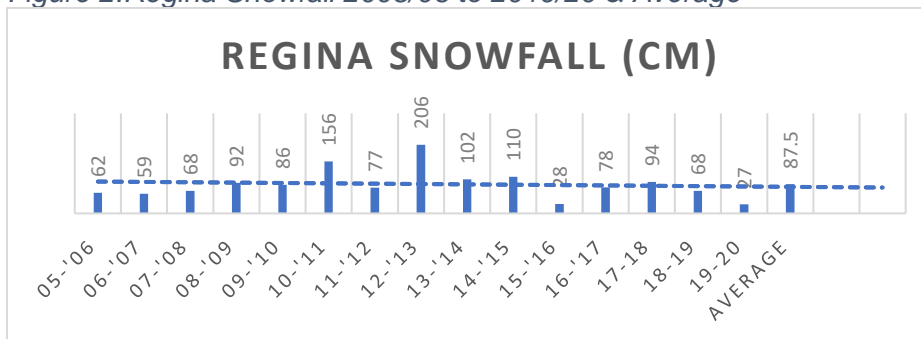


Figure 2: Regina Snowfall 2005/06 to 2019/20 & Average



The Roadways Seasonal Operations branch would always be ready to tackle harsher winters and provide emergency response if required. The Winter Maintenance Reserve has a current balance of \$1.8 million and this source of funding would be used in an above average season. Assuming the milder weather trend could continue in the coming years, Administration studied the possible financial impact and it is expected that a total cost saving of \$1.223 million is possible due to reduced maintenance activities.

Expected Savings:

As indicated in the Table 1 below, there is a total saving potential of \$1.223 million due to reduced winter maintenance requirements under various programs listed in the table.

Table 1: *Expected Savings due to milder weather trends:*

Major Winter Maintenance Program	Expected Costs (Average 5-storms) Previous average winter season based on historic data	Expected Costs (Average 4-storms) New average	Expected Savings	Comments
Plowing of Roads	\$2.172 million	\$1.575 million	\$0.596 million	<ul style="list-style-type: none"> Based on cost of 4 systematic plows instead of 5 plows Based on only one residential plow instead of two plows Cost saving in storm, systematic and routine maintenance modes due to reduced cost of resources (manpower, City owned and hired equipment)
Plowing of Alleys	\$0.131 million	\$0.066 million	\$0.066 million (reflected in Alley Tax Levy)	<ul style="list-style-type: none"> Based on one alley plow instead of two.
Ice Control on Roads	\$1.932 million	\$1.665 million	\$0.267 million	<ul style="list-style-type: none"> Based on cost of 4 systematic plows instead of 5 plows
Snow removal	\$2.519 million	\$2.159 million	\$0.360 million	<ul style="list-style-type: none"> Lower snow accumulations require less snow removal
		Total Expected Saving	\$1.223 million	