

Audit of Winter Maintenance Programs for Roads

Audit Committee Presentation

September 17, 2019

AUDIT SCOPE

Winter maintenance programs for roads from 2015 to 2019.

REPORT HIGHLIGHTS

This audit identified a need for:

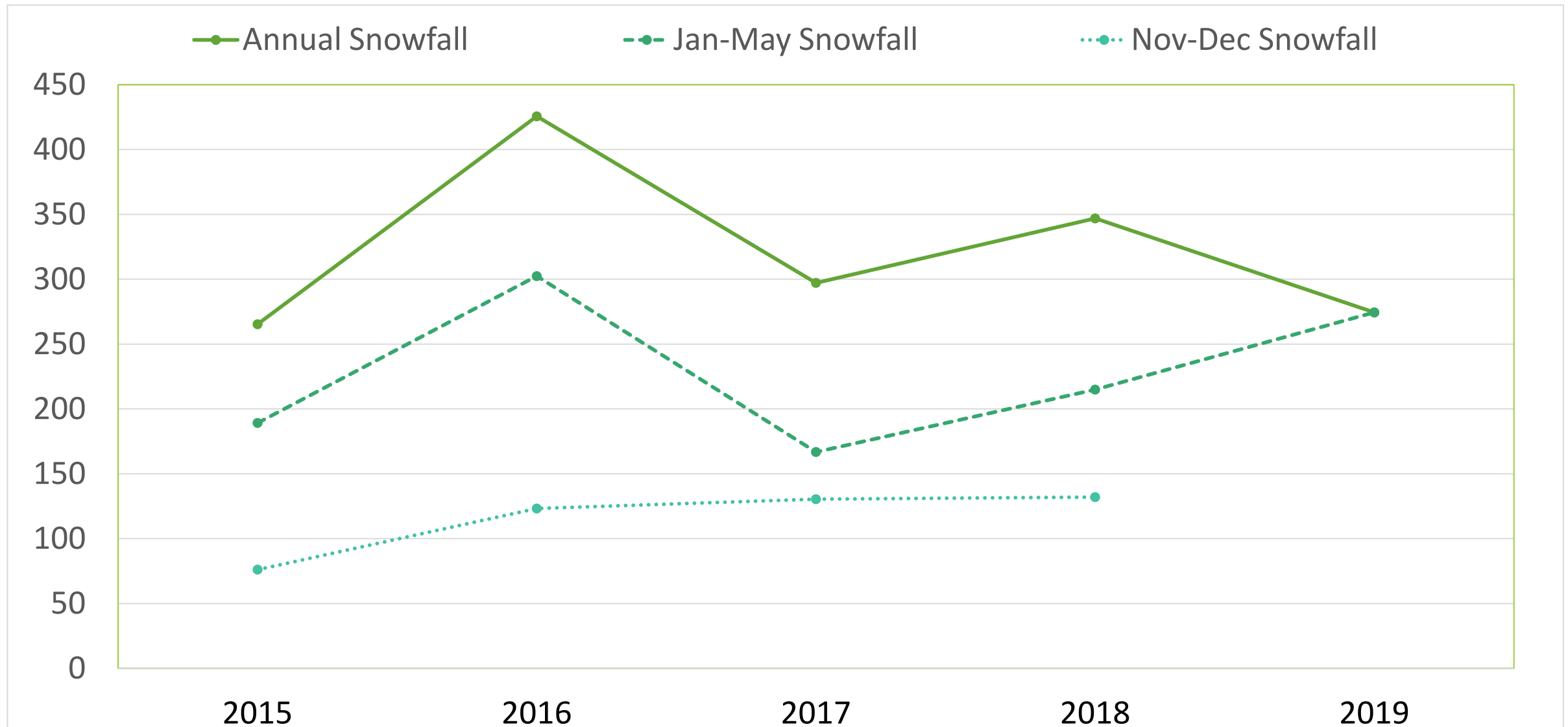
- increased capital expenditures to stem the deterioration of City roads;
- increased operating budgets to respond to changing weather patterns;
- opportunities to improve risk management; and
- opportunities to improve value-for-money within operations.

CAPITAL BUDGETS FOR ROADS (Excluding Bridges, Culverts, Traffic Lights, etc)

BUDGET YEARS	PERIOD	AVG CAPITAL BUDGET ROAD EXPANSION	AVG CAPITAL BUDGET ROAD RENEWAL
2002-2019	18 YEARS	\$14.5 Million	\$ 15.9 Million
2002-2014	13 YEARS	\$8.6 Million	\$12.3 Million
2015-2019	5 YEARS	\$29.9 Million	\$25.3 Million
CHANGE*	LAST 5 YEARS VERSUS FIRST 13 YEARS	249%	105%

* These figures annual inflation on construction materials which has averaged 2.25% per annum between 2002 and 2019.

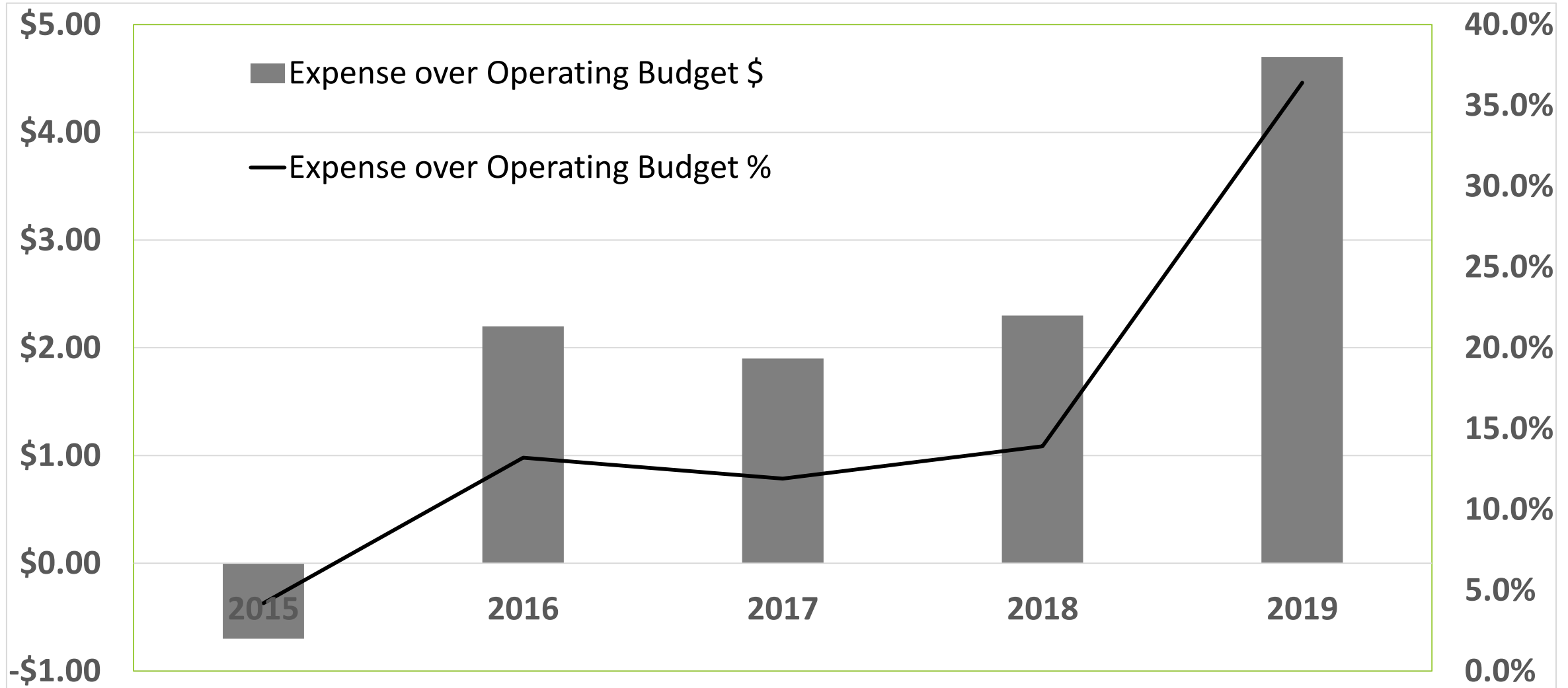
LEVELS OF SNOWFALL IN CENTIMETERS



Audit Observations

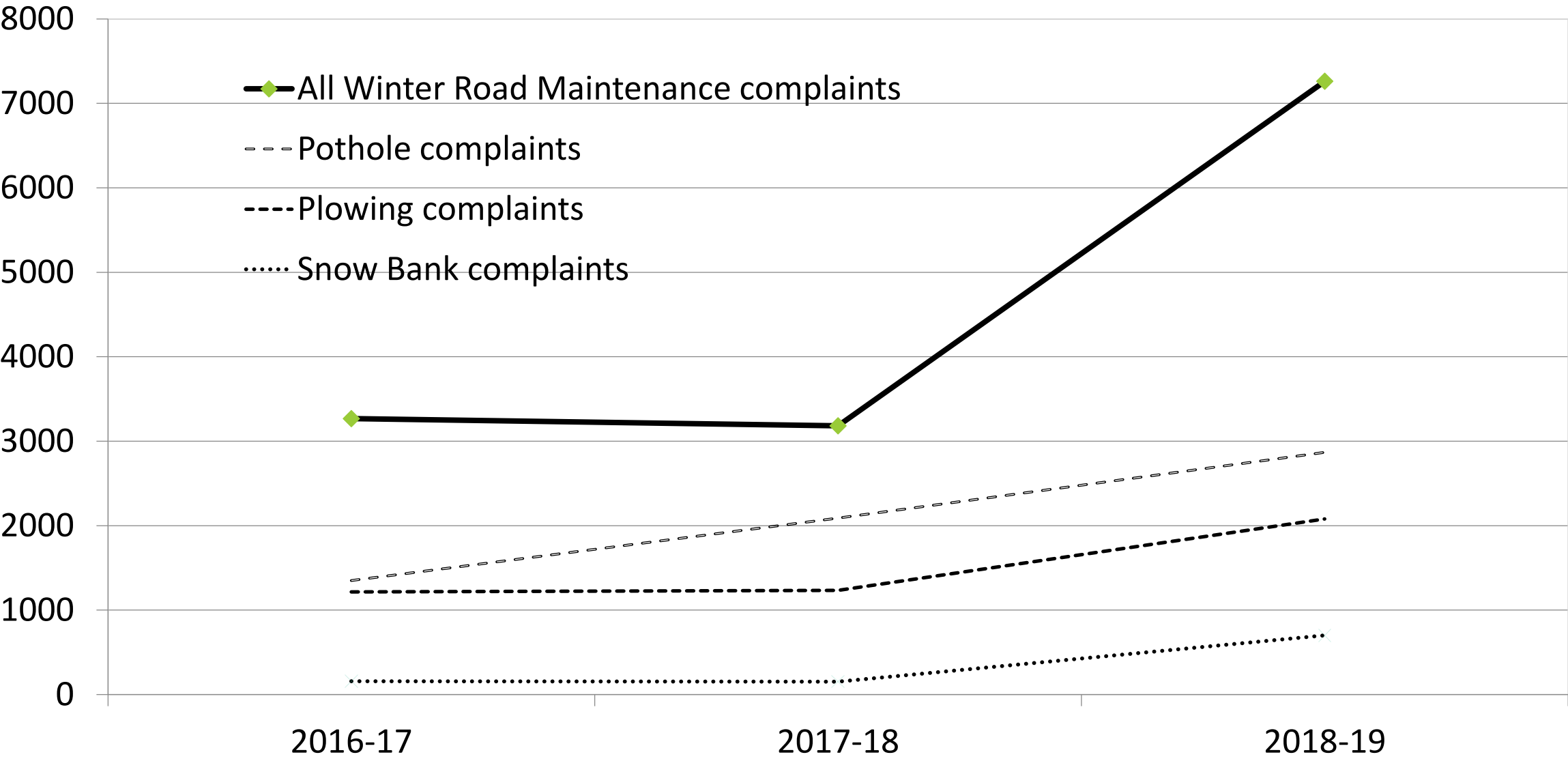
- Expenditures for winter maintenance exceeded budgeted amounts from 2016 to 2018.
- Cost increases in 2019 were primarily due to the increased use of contractors to remove high levels of snowfall in 2018/2019.
- Operating budget shortfalls have exhausted the winter maintenance reserve and contributed to the depletion of the tax stabilization reserve.

ANNUAL OPERATING BUDGET VARIANCES



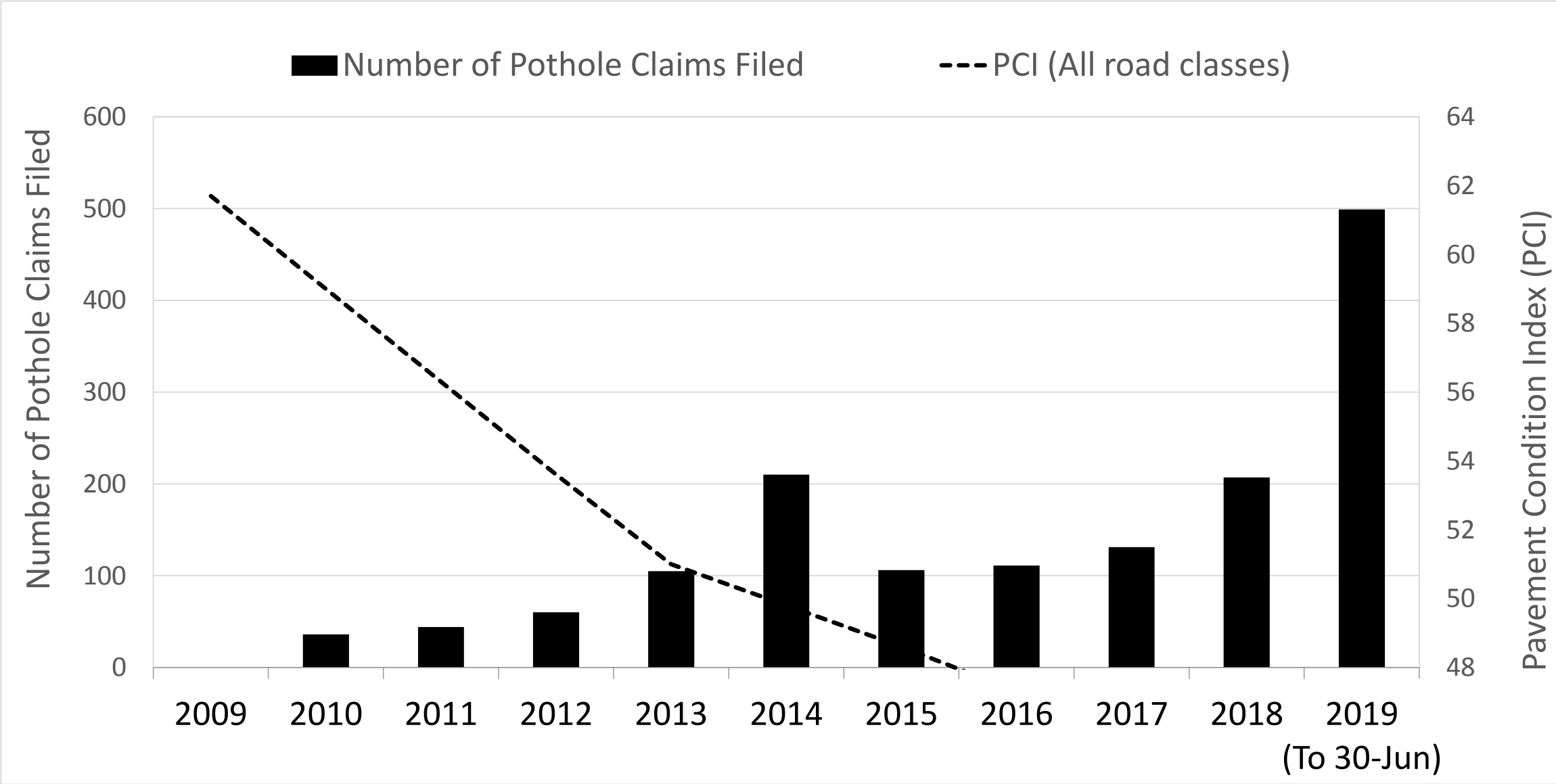
- Opportunities to make greater use of weather forecasting data and data from Road Weather Information Stations.
- Need to review the mix of contractors and staff to improve economy for years with high snowfall.
- Need to revise the length of contracts for snow plowing to allow contractors to recover equipment costs.

WINTER MAINTENANCE COMPLAINTS



- The City communicates service levels for winter maintenance on the City's website and in local newspapers.
- Despite this communication, customer survey responses suggested that many residents are not aware of the different levels of service for different classes of City roads.
- The City was not declaring significant weather events to warn residents of hazardous road conditions.

IMPACT OF PAVEMENT CONDITION ON POTHOLE CLAIMS



- Insufficient capital budgets have led to deterioration of roads and increasing levels of dissatisfaction and claims.
- City obtains the Pavement Condition Index (PCI) of roads every two years but last study was completed in 2016.
- Insufficient capacity to use recycled asphalt for repairs to roads which have an overall PCI of less than 50 percent.

SUMMARY OF SIGNIFICANT RISKS

Risk	No. of Risks	Risks Before Controls			Risks After Controls*		
		High (15 to 25)	Med (9 to 14.99)	Low (1 to 8.99)	High (15 to 25)	Med (9 to 14.99)	Low (1 to 8.99)
Reputation	1	1	-	-	-	1	-
Operational	3	3	-	-	-	3	-
Financial	2	2	-	-	1	1	-
Legal	1	1	-	-	-	1	-
Total	7	7	0	0	1	6	0

*Steps to further mitigate 4 of these risks have been recommended in our report.