
City of Saskatoon Internal Audit

Road Maintenance Terms of Reference

City of Saskatoon

*For presentation to
the Public Committee
on September 8, 2015*



City of
Saskatoon

PwC Internal Audit for City of Saskatoon

We are pleased to present our terms of reference for our first internal audit project with the City of Saskatoon (the “City”), which is a Value for Money Review of Road Maintenance. Based on the risk assessment exercise which we performed with the City’s management and councillors, Road Maintenance was identified as a high risk area and as the top priority for internal audit.

The purpose of the project is to identify areas for improvements and cost management, in part by benchmarking against other municipalities in Canada. The project will assist the City’s management and councillors in understanding whether the processes and activities undertaken as part of the Road Maintenance program (the detailed scope of which is included in the terms of reference) are being carried out in the most economical, efficient and effective manner and, if not, to identify the specific areas for improvement.

The project will focus on roadway condition/rehab/maintenance only and will exclude lanes, sidewalk maintenance, and winter operations (the latter two of which are intended to be separate internal audit projects based on the risk assessment exercise and corresponding five-year audit plan).

During the course of the project, we will examine key reports and other documentation and conduct interviews with key personnel within the Transportation & Utilities department including Major Projects, Construction & Design, and Public Works.

We will perform a comparative analysis/benchmarking of the City’s Road Maintenance process and activities with four to five municipalities within Canada, which will provide relevant information and will supplement the recommendations that we make based on our own findings.

At the conclusion of the project, a report will be prepared including an executive summary of our findings and recommendations, specific observations relating to the City’s current processes and activities, recommendations for management, and management’s response to our recommendations and advice.

Upon completion of the project, a meeting will be held with management to discuss the results and a draft report will be distributed in advance of the meeting for comments. A summary of the draft report will be discussed with Standing Policy Committee on Finance (“SPCF”) and management, with the final report being issued to key stakeholders and the SPCF.

The project commenced on July 21, 2015 with an initial kick-off meeting with the key stakeholders. The majority of the work was completed in July and August with benchmarking interviews with other municipalities to be completed in late August/early September. The initial estimate was for the project to be complete within approximately 10 weeks. We anticipate that the project will be complete by mid-October, approximately 12 weeks from project commencement. To be clear, project completion denotes a summary of the draft report highlighting key observations and recommendations will be available for discussion with the SPCF.

September 1, 2015

Appendix

Final Scope of Work Road Maintenance Value for Money Review

BACKGROUND

The roadway infrastructure within the City of Saskatoon (“City”) has not met citizen’s expectations in recent years. Funding did not keep pace with inflation over the past decade, and as a result, the amount of roadways that could be rehabilitated each year was reduced to unsustainable levels, and the road network condition deteriorated. Condition assessments have been conducted periodically and the City has significantly increased funding to ensure more appropriate funding levels are in place.

A number of funding changes have been introduced over the past few years, and Council has made significant investment in roads over that same period of time, including:

- The 2013 Budget introduced a property tax increase of 1.25% over the 2012 tax base dedicated specifically to paved roadways;
- Allocation of ad hoc funding, including allocations from neighborhood land development profits and year-end surpluses;
- Allocation of federal Infrastructure Stimulus Funding; and
- “Building Better Roads,” the most aggressive program of road construction, repairs and maintenance in the City’s history, was introduced in 2014.

City administration is responsible for evaluating the condition of the City's paved roadways and for developing an annual program to maintain them at a minimum long-term cost, with modifications based on approved funding levels. Where feasible, condition assessments are conducted on an annual basis. The assessments are used to determine conditions and to develop annual capital improvement plans. This year, more than \$53 million is budgeted to be spent on roads, including street sweeping, pothole patching, winter maintenance, sidewalk rehabilitation, back lane upgrades, and road construction and repair. The 2016 and 2017 preservation budgets assume that the proposed 1.94% dedicated tax levy will be approved in each respective year with supplemented funding in 2016 to increase the budget to the original amounts established in 2014. In 2017, the funding base will be at the target. The tables below outline the budgets for 2015 and projected budgets for 2016 and 2017.

2015 Surface Preservation Budget	
2014 Budget Carryover	\$700,000
2015 Approved Budget	\$26,245,000
Total 2015 Construction Year Budget	\$26,945,000

2015 Estimated Expenditures	
2015/ 2016 Program Development	\$1,710,000
Building Better Road Communications	\$300,000
Roadway Preservation Projects	\$19,250,959
Patching Program	\$1,500,000
Pavement Marking	\$250,000
Sidewalk/Curb Works Preservation Projects	\$3,921,622
Total Estimated Expenditures	\$26,932,581

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2015 Estimated Roadway Treatment Expenditures			
Treatment	Unit Rate Per Treatment Type	Estimated Cost	Treated Lane – KM
Crack Sealing	\$7.00/m	\$351,050	-
Micro-surfacing	\$10.00/m ²	\$2,885,350	76
Blade Leveling	\$20.00/m ²	\$326,500	4.3
Patching	\$25.00/m ²	\$968,675	10.2
UTO	\$25.00/m ²	\$2,746,750	29
Resurfacing	\$45.00/m ²	\$7,767,360	45.5
Reconstruction	\$105.00/m ²	\$2,832,690	7.2
Water/ Sewer Coordinated Road Works	\$65.00/m ²	\$1,372,584	5.8
Total		\$19,250,959	178

Project 2016/ 2017 Budgets		
	2016	2017
Budget	\$28,730,000	\$28,730,000
2016/ 2017 Estimated Expenditures		
Program Development	\$1,500,000	\$1,500,000
Building Better Roads Communications	\$300,000	\$300,000
Roadway Preservation Projects	\$22,715,000	\$22,690,000
Patching Program	\$1,435,000	\$1,460,000
Pavement Marking	\$250,000	\$250,000
Sidewalk/Curb Works Preservation Projects	\$2,530,000	\$2,530,000
Total Estimated Expenditures	\$28,730,000	\$28,730,000

In an effort to ensure value for money of the City's road maintenance program, the City has approached Internal Audit to perform a value-for-money audit to identify areas for improvements and cost management, in part by benchmarking against other municipalities in Canada.

OBJECTIVE

The objective of this engagement is to understand whether the processes and activities undertaken as part of the road maintenance program, as scoped immediately below, are being carried out in the most economical, efficient and effective manner and, if not, to identify the areas for improvement.

SCOPE AND APPROACH

- Our value-for-money audit will focus on the roadway condition/rehab/maintenance only (i.e. the approximately \$26 million in rehab funding, combined with Public Works summer roadway maintenance). Lanes, sidewalk maintenance, winter operations, etc. will not be within the scope of this value-for-money audit.
- We will examine key reports and other documentation (for the past 3 years and current) and conduct interviews with key personnel within the Transportation & Utilities Department including Major Projects, Construction & Design, and Public Works divisions to understand current processes/activities and to identify areas for improvement.

Final Scope of Work Road Maintenance Value for Money Review

- We will obtain information with respect to:

A. Economy

- What are the last 3 years, current and future budgeted expenditures? What do they comprise of and how were they determined?
- How does the city compare with respect to per unit expenditures on roads in comparison to other cities? How do other cities fund their road maintenance programs?
- How are costs estimated for treatment type and location?
- What is the contract tendering and awarding process at a high level? Is it giving the City best options from an economy perspective?
- How is it ensured that other aspects (e.g. landscaping, irrigation system, man holes, and electricity cables) of roadways affected by the maintenance work are taken care of? Who is responsible (i.e. contractor) for taking care of these affected areas? Are the costs of taking care of these affected areas factored into the costing of the contract or are they cost plus?

B. Efficiency

- How is it determined which roadways to include in the annual capital improvement plan? How is the budget and funding determined for road maintenance work included in the annual capital improvement plan?
- What are the criteria used to determine the treatment type (crack sealing, micro-surfacing, blade level, paver lay, ultrathin overlays, resurfacing, patching, and reconstruction) for a particular roadway and how are the criteria determined?
- What are the processes/steps undertaken for each treatment type? How is it monitored that the required processes/steps have been followed for the particular treatment type and who monitors it?
- How is the quality of roadway maintenance work monitored (before, during and after) and who monitors it? How is it ensured that the required quality is maintained?
- What degree of preparation does the City do with the approach of spring weather?
- How do different departments/ divisions (e.g. Public Works and Major Projects) coordinate with respect to work done for roadway maintenance to ensure there is no duplication of efforts?

C. Effectiveness

- What are the key indicators with respect to road maintenance? Are these being met within the City? How does the City compare to other cities with respect to these indicators?
- What are the current service levels for the different asset classes (paved roadways, sidewalks, paved back lanes, gravel back lanes and boundary roads) and how were they determined?
- What is the physical state of the roadways and how is that state monitored, assessed and reported?
- How is citizens' concern and satisfaction monitored and addressed with respect to roadways maintenance?

Final Scope of Work Road Maintenance Value for Money Review

- Does the City's pavement and structural design specifications represent best practice for both new construction and preservation?
- We will perform a comparative analysis/ benchmarking of the City's road maintenance process and activities with four to five municipalities within Canada. These municipalities could include Edmonton, Calgary, Regina, London and Winnipeg. The comparative analysis/ benchmarking will help provide relevant information regarding what is being done well by the City in comparison to other municipalities and what processes/activities need improvement or can be made better. We will need the City's help in engaging each of these cities with respect to the benchmarking aspect.

DELIVERABLES

At the conclusion of the project, a report will be prepared that will include:

- An executive summary of our findings and recommendations for the City;
- Specific observations relating to the City's current roads maintenance process and activities;
- Recommendations and advice for management; and
- Management's response to our recommendations and advice.

REPORTING

Draft Report for Closing Meeting

Upon completion of the project, a meeting will be held with management to discuss the results arising from the project. A draft report will be distributed in advance of the meeting for comments.

A summary of the draft report highlighting key observations and recommendations will be discussed with SPCF and management.

Final Project Report

A final internal audit report will be issued to Jeff Jorgensen, General Manager, Transportation & Utilities, Pat Hyde, Director of Public Works and will be copied to Murray Totland, City Management and other key individuals, as necessary. The full report will also be issued and presented to the SPCF.

KEY CONTACTS

The key contacts for this project are:

- Jeff Jorgenson, General Manager, Transportation & Utilities
- Pat Hyde, Director of Public Works
- Mike Gutek, Director of Major Projects
- Rob Frank, Manager of Asset Preservation
- Celene Anger, Director of Construction & Design

We will organize bi-weekly meetings for the key personnel to keep everyone apprised on our progress.

Final Scope of Work Road Maintenance Value for Money Review

ENGAGEMENT TEAM, TIMELINES & BUDGET

The engagement team will consist of:

Name	Role	Expected Hours	Contact Details
Arun Gupta	Quality Assurance Partner	20	E-mail: gupta.arun@ca.pwc.com Phone: (780) 441-6717
Jesse Radu	Engagement Partner	27	E-mail: jesse.m.radu@ca.pwc.com Phone: (306) 668-5918
Kamran Rana	Engagement Manager	129	E-mail : kamran.rana@ca.pwc.com Phone : (306) 668-5904
Hany Al-Anwer	Senior Associate	122	E-mail: hany.m.al-anwer@ca.pwc.com Phone: (780) 441-6700 Ext. 3332
Imran Muhammad	Senior Associate	102	E-mail: imran.muhammad@ca.pwc.com Phone: (306) 668-5991
	Total	400	

We expect to start the engagement effective July 6, 2015 and will be performing the majority of our work during July and August. We estimate that our report on the project will be completed by September 15, 2015. The project is expected to cost approximately \$66,600 with respect to fees. In addition we expect to incur out-of-pocket expenses of approximately \$5,000 for this project.



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