



AUDIT COMMITTEE AGENDA

Audit Committee Meeting
Tuesday, April 16, 2019
Tom Davies Square - Council Chamber

COUNCILLOR DEB MCINTOSH, CHAIR

Mike Jakubo, Vice-Chair

4:00 p.m. AUDIT COMMITTEE MEETING
COUNCIL CHAMBER

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DECLARATIONS OF PECUNIARY INTEREST AND THE GENERAL NATURE THEREOF

ADOPTING, APPROVING OR RECEIVING ITEMS IN THE CONSENT AGENDA

(RESOLUTION PREPARED FOR ITEM C-1)

CONSENT AGENDA

(For the purpose of convenience and for expediting meetings, matters of business of repetitive or routine nature are included in the Consent Agenda, and all such matters of business contained in the Consent Agenda are voted on collectively.

A particular matter of business may be singled out from the Consent Agenda for debate or for a separate vote upon the request of any Councillor. In the case of a separate vote, the excluded matter of business is severed from the Consent Agenda, and only the remaining matters of business contained in the Consent Agenda are voted on collectively.

Each and every matter of business contained in the Consent Agenda is recorded separately in the minutes of the meeting.)

ROUTINE MANAGEMENT REPORTS

- C-1. Report dated March 26, 2019 from the Auditor General regarding Final Audit Plans for 2019 and 2020. **4 - 10**

(RESOLUTION PREPARED)

(This report contains the final audit plans for 2019 and 2020.)

REGULAR AGENDA

MANAGERS' REPORTS

- R-1. Report dated April 1, 2019 from the Auditor General regarding Performance Audit of Road Infrastructure Maintenance Processes. **11 - 20**

(RESOLUTION PREPARED)

(This report provides the results of the performance audit of road infrastructure maintenance processes.)

MEMBERS' MOTION

ADDENDUM

CIVIC PETITIONS

QUESTION PERIOD

ADJOURNMENT

Request for Decision

Final Audit Plans for 2019 and 2020

Presented To:	Audit Committee
Presented:	Tuesday, Apr 16, 2019
Report Date	Tuesday, Mar 26, 2019
Type:	Routine Management Reports

Resolution

That the City of Greater Sudbury approves the Audit Plans for 2019 and 2020 as outlined in the report entitled "Final Audit Plans for 2019 and 2020", from the Auditor General, presented at the Audit Committee meeting on April 16, 2019.

Signed By

Auditor General
Ron Foster
Auditor General
Digitally Signed Mar 26, 19

Relationship to the Strategic Plan / Health Impact Assessment

The Auditor General's Office supports the strategic planning pillar of responsive, fiscally prudent, open governance by providing a focus on openness, transparency and accountability.

Report Summary

The Auditor General reports to Audit Committee and is responsible for assisting the Council in holding itself and its administrators accountable for the quality of stewardship over public funds and for the achievement of value for money in municipal operations. To fulfil this responsibility, the Auditor General submits a multi-year audit plan to Audit Committee in accordance with By-law 2015-217.

Financial Implications

There are no direct financial implications associated with this report.

Final Audit Plans for 2019 and 2020

Auditor General's Office

March 27, 2019

Overview

- Mandate of the Auditor General's Office
- Audit Planning Process
- Audit Plans for 2019 and 2020

Mandate of the Auditor General's Office

- The Auditor General “reports to council and is responsible for assisting the council in holding itself and its administrators accountable for the quality of stewardship over public funds and for achievement of value for money in municipal operations.”
- The Auditor General's Office (AGO) plans, conducts, evaluates and monitors the results of financial, compliance and performance audits (except the annual attest audit) of all programs, activities and functions of all City departments, agencies, boards, municipally-controlled corporations, and offices of the Mayor and Council.
- The AGO also conducts investigations, coordinates reporting for the Wrongdoing Hotline and supports the Enterprise Risk Management process.

Audit Planning Process

- The Auditor General prepares an annual audit plan for review by the Audit Committee and Council.
- The annual audit plan is risk-based and incorporates input from members of Council and the Executive Leadership Team.
- As outlined within By-law 2015-217, no deletions or amendments can be made to the plan except by the Auditor General.
- Subject to the provision of appropriate funding, additional matters may be audited if requested by Audit Committee and Council or a Board of Directors of agencies, boards and corporations that are controlled by CGS.

2019	Audit Project Title: Governance (G), Risk (R), Compliance (C), Performance (P), Financial (F)	AG Days	Manager Days	Contract Days	Total Days
	Audits Carried Forward from 2018	25	5		30
2019.1	Enterprise Risk Management	5	30		35
2019.2	Internal Controls Audit (C,F,P,R)	1	4		5
2019.3	Winter Maintenance VFM Audit (C,F, P)	10	65		75
2019.4	Compensation Management Audit (C,F, P)	35	40		75
2019.5	Asset Management VFM Audit (C,F,P)	65	10		75
2019.6	IT Security Assessment – Phase 1 (G,P,R)	5	5	5	15
2019.7	Business Process Controls Review (C,F,P,R)	19	1		20
	Investigations	10	30		40
	Review of Reports to Council	10			10
	Annual Report to Council	5	5		10
	Annual Risk Assessment & Audit Plan	10			10
	Total Days Assigned to Audits	200	195	5	400

2020	Audit Project Title: Governance (G), Risk (R), Compliance (C), Performance (P), Financial (F)	AG Days	Manager Days	Contract Days	Total Days
	Audits Carried Forward from 2019	4	26		30
2020.1	Enterprise Risk Management	5	25		30
2020.2	Internal Controls Audit (C,F,P,R)	1	4		5
2020.3	IT Governance Audit (G,P,R)	10	5		15
2020.4	Economic Development VFM Audit (C,F,P,R)	10	65		75
2020.5	Water VFM Audit (C,F,P,R)	65	10		75
2020.6	Fleet Management VFM Audit (C,F,P,R)	65	10		75
2020.7	IT Security Assessment – Phase 2 (G,P,R)	5	15	5	25
	Investigations	10	30		40
	Review of Reports to Council	10			10
	Annual Report to Council	5	5		10
	Annual Risk Assessment & Audit Plan	10			10
	Total Days Assigned to Audits	200	195	5	400

Presented To:	Audit Committee
Presented:	Tuesday, Apr 16, 2019
Report Date	Monday, Apr 01, 2019
Type:	Managers' Reports

Request for Decision

Performance Audit of Road Infrastructure Maintenance Processes

Resolution

That the City of Greater Sudbury endorses the recommendations as outlined within the audit report entitled "Performance Audit of Road Infrastructure Maintenance Processes", from the Auditor General, presented at the Audit Committee meeting on April 16, 2019.

Signed By

Auditor General
Ron Foster
Auditor General
Digitally Signed Apr 1, 19

Relationship to the Strategic Plan / Health Impact Assessment

This report supports the strategic goal of maintaining sustainable infrastructure by prioritizing, building and rebuilding our community's foundation.

Report Summary

Management has taken a number of important steps in recent years to identify, assess and mitigate significant risks while maintaining the City's road infrastructure. Notwithstanding, this audit indicated that capital spending on the existing road infrastructure must be bolstered to stem the continual deterioration of this infrastructure; to ensure compliance with legislation and regulations, to achieve sustainable service level targets and to manage risks more effectively. Opportunities were also identified to improve value-for-money within municipal operations.

Financial Implications

Capital spending on the existing road infrastructure must be bolstered to stem the continual deterioration of this infrastructure.

Performance Audit of Road
Infrastructure Maintenance Processes

March 29, 2019

FINAL REPORT



SUMMARY

OBJECTIVES

To assess the extent of regard for value for money within the non-winter maintenance program for road infrastructure.

BACKGROUND

The Linear Infrastructure Services Division of the Growth and Infrastructure Department is responsible for maintenance of road infrastructure which includes arterial, collector and local roads, bridges, culverts, sidewalks, traffic and street lights. The Infrastructure Capital Planning Division manages capital expenditures for road infrastructure, water and waste water, drainage and other infrastructure within the Department.

In 2018, the Linear Infrastructure Division employed 135 full time positions and 11,830 part time hours to deliver non-winter maintenance programs. The approved operating budget for these programs was \$ 15.7 million and approved capital budget was \$76.5 million in 2018.

SCOPE

Non-winter maintenance processes on road infrastructure between 2016 and 2018.

REPORT HIGHLIGHTS

Management has taken a number of important steps in recent years to identify, assess and mitigate significant risks while maintaining the City's road infrastructure. Notwithstanding, this audit indicated that capital spending on the existing road infrastructure must be bolstered to stem the continual deterioration of this infrastructure; to ensure compliance with legislation and regulations, to achieve sustainable service level targets and to manage risks more effectively. Opportunities were also identified to improve value-for-money within municipal operations.

AUDIT STANDARDS

We conducted our audit in accordance with Generally Accepted Government Auditing Standards which require that we adequately plan audits; properly supervise staff; obtain sufficient, appropriate evidence to provide a reasonable basis for audit findings and conclusions; and document audits.

For further information regarding this report, please contact Ron Foster at the City of Greater Sudbury at 705-674-4455 extension 4402 or via email at ron.foster@greatersudbury.ca

OBSERVATIONS AND ACTION PLANS:

A. ROADS

1. Capital and Operating Budgets:

Since 2002, the amount of spending on the renewal of the City's roads has been increasing gradually; however, as shown in Figure 1 on the next page, the increases have been insufficient to prevent the ongoing deterioration of some of the City's roads. This trend has caused increased levels of complaints about the City's roads and declining levels of citizen satisfaction.

Table 1– Budget Analysis (Millions)

Year	CAPITAL BUDGET			OPERATING ¹			TOTAL BUDGET
	Expansion & Renewal	Renewals ²	TOTAL	Non-Winter	Winter	TOTAL	
2002	8.7	3.1	11.8	6.8	11.1	17.9	29.7
2003	2.7	5.4	8.1	6.5	9.9	16.4	24.5
2004	2.1	9.3	11.4	7.4	10.4	17.8	29.2
2005	4.1	2.0	6.1	8.3	8.8	17.1	23.2
2006	14.0	3.9	17.9	8.1	10.1	18.2	36.1
2007	14.7	8.0	22.7	11.4	13.9	25.3	48.0
2008	11.2	7.1	18.3	13.0	14.4	27.4	45.7
2009	7.4	11.4	18.8	13.8	14.7	28.5	47.3
2010	9.2	49.8	59.0	14.0	15.1	29.1	88.1
2011	4.6	14.6	19.2	13.6	15.2	28.8	48.0
2012	11.9	12.0	23.9	13.8	15.2	29.0	52.9
2013	10.6	15.2	25.8	14.7	15.0	29.7	55.5
2014	10.4	18.2	28.6	14.9	15.9	30.8	59.4
2015	8.9	17.8	26.7	15.1	16.4	31.5	58.2
2016	8.6	18.3	26.9	15.2	16.6	31.8	58.7
2017	84.5	21.6	106.1	15.5	17.0	32.5	138.6
2018	38.4	38.1	76.5	15.7	17.6	33.3	109.8
2019	9.2	20.4 ³	29.6	16.2	18.7	34.9	64.5
Total	261.2	276.2	537.4	224.0	256.0	480.0	1017.4
Avg.	14.5	15.3	29.8	12.5	14.2	26.7	56.5
Percent	26%	27.1%	52.8%	22.1%	25.1%	47.2%	100%

¹ Excludes operating budget of Infrastructure Capital Planning Division

² Includes reconstruction, resurfacing, surface treatment, large asphalt patches

³ In addition to the \$20.4 million, Finance Committee approved \$9.8 Million of additional spending for road maintenance at its March 26, 2019 meeting.

Figure 1: Pavement Condition Index

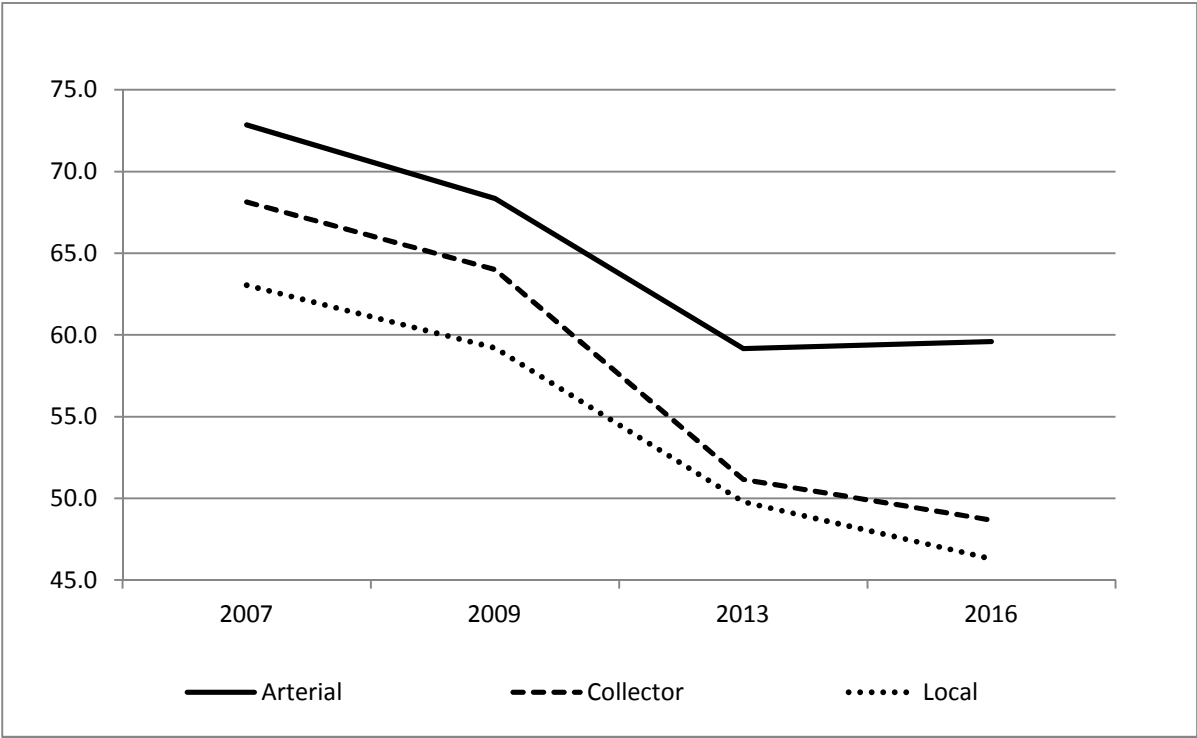


Figure 2 – Road and Pothole Complaints

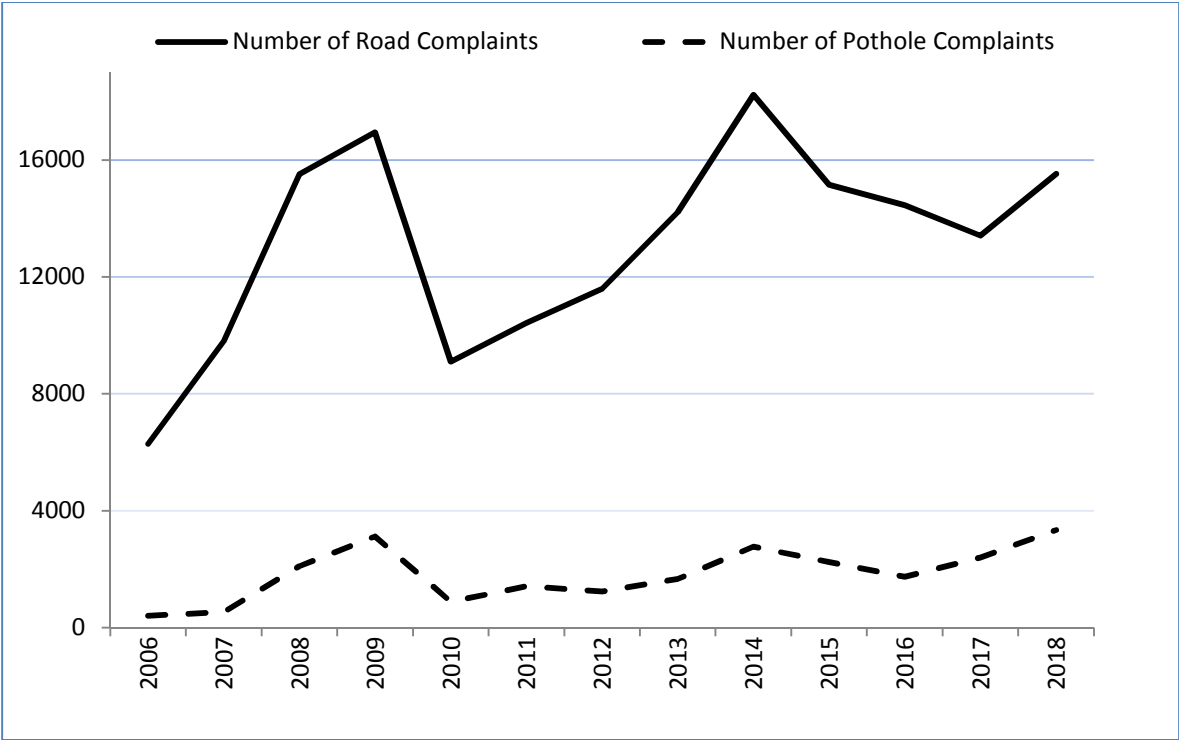


Figure 3: Figure 3: Citizen Perceptions about Roads

Rank/Importance of Services	Importance of Services ⁴		Top issues affecting CGS ⁵	
	2004	2009	2016	2018
Top ranked	94%	92%	-	-
	-	-	70%	78%

Recommendations:

Work with asset management and finance staff to identify sustainable levels of service for each category of road and identify funding requirements to manage relevant risks and ensure compliance with relevant legislation.

Management Response and Action Plan

Two financial plans have previously been presented to council. These include the KPMG report “Financial Planning for Roads, Structures and Related Infrastructure” dated July 10, 2012 and the KPMG report “Municipal Asset Management Plan” dated November 28, 2016. Infrastructure Capital Planning and Linear Infrastructure Services staff will work with Asset Management and Finance staff to update the Roads Financial Plan (and other asset categories as required) to identify levels of sustainable funding and manage risk.

2. PAVEMENT CONDITION INDEX (PCI) AND OVERALL CONDITION INDEX (OCI):

Pavement Condition Index (PCI) is used within the industry to measure the physical attributes of roads for roughness, rutting, structural and non-structural conditions. The PCI ranges from a best road condition of ‘100’ to 0 for a worst-case road. In response to input from former Councils, staff has been prioritizing road renewal projects using an Overall Condition Index (OCI) which directs funding toward roads before they experience significant and rapid deterioration.

The OCI is determined by the pavement condition index, safety considerations, timing of water and waste water infrastructure projects, economic development initiatives and extent of road congestion. This approach attempts to maximize the City’s return on investment on road renewal projects by extending the useful lives of roads which are in average condition. The City also employs crack sealing programs to extend the useful lives of roads.

⁴ How citizens value the services that they receive – based on citizen rating (Percentage based on not at all important to very important)

⁵ Issues/Perception of sample of 1200 resident’s top three issues affecting Greater Sudbury in 2018 – Citizen Satisfaction Survey

One of the unintended consequences of relying solely on the OCI to prioritize capital projects for roads is that insufficient emphasis has been placed on roads with significant deterioration. Table 2 indicates that all three categories of the City's roads have deteriorated significantly since 2007.

Guidance from the Ontario Good Road Association (OGRA) sets out various 'triggers' for road projects based on their Pavement Condition Index. Table 2 below, which incorporates these "triggers", indicates that a significant percentage of the City's roads require rehabilitation or reconstruction according to the maintenance methodology recommended by the OGRA.

Table 2 - Roads Requiring Rehabilitation and Reconstruction using OGRA Methodology

Category	2007 AVG PCI	2009 AVG PCI	2013 AVG PCI	2016 AVG PCI	% Change from 2007	Rehabilitation		Reconstruction		Total km of Roads in City ⁶
						Lane km	% of Total	Lane km	% of Total	
Arterial	72.8	68.4	59.2	59.6	18%	40	14%	58	20%	282
Collector	68.1	64.0	51.1	48.7	28%	71	28%	86	34%	254
Local	63.0	59.2	49.8	46.3	27%	155	13%	268	23%	1,168
Other road sections (Ramp, Prov. Hwy & Private)										200
TOTAL:										1,904

Recommendation:

To address the continual deterioration of roads, use a revised OCI measure that consists of PCI, safety factors and the timing of water/waste water initiatives to prioritize rehabilitation and reconstruction projects. Prepare separate business cases to justify additional spending on roads projects that have economic benefits or other merits.

Management Response and Action Plan

Staff can review and update the OCI components. Staff notes the OCI factor which included the economic benefits factor was created before the City's Cost Sharing Policy was in place. As other City processes currently consider development and economic benefits, a review of the OCI measure and its components is warranted.

⁶ Represents the total kilometers of roads that are assessed for PCI and excludes gravel roads.

B. BRIDGES AND CULVERTS

The Bridge Condition Index (BCI) provides an objective measure of the condition of the city's bridges and culverts and sets the priority for their repair and renewal. All municipalities are required to undertake detailed visual inspections every second year classifying the structures as excellent, good, fair and poor in accordance with Ontario Structure Inspection Manual (OSIM). In 2016, KPMG recommended the City adopt the more conservative approach for bridge maintenance that is shown below in Table 3.

In 2018, management engaged a consultant to complete detailed inspections of bridges with ratings of 55 or less to prioritize their renewal. Thresholds for maintenance of bridges with ratings lower than 55 were also revised from 5 to 3 years to mitigate the risks of potential failure. We encourage management to continue these practices as they mitigate relevant risks.

Table 3 – Bridge Maintenance

CGS Current Categorization (Per CGS Roads Dept.)			KPMG Categorization (Asset Mgt. Plan – 2016)		
BCI Range	Condition	Maintenance	BCI Range	Condition	Maintenance
< 50	Poor ⁷	Within one year	NA	NA	NA
50 – 55	Poor to Fair	Within next 1-3 years	< 60	Poor	Within one year
56 – 59	Fair	Within next 2-4 years	< 60	Poor	Within one year
60 – 69	Good	None in 3-5 years	60 - 69	Fair	Within 5 years
70 – 100	Excellent	None	70 - 100	Good	None in 5 years

Management Response and Action Plan

All City bridge structures are inspected every 2 years as required by O.Reg 104/97: Standards for Bridges. Staff uses the reports and recommendations prepared by the biennial bridge inspector to develop the bridge repair and maintenance program. Staff will continue to review bridges with Bridge Condition Indices lower than 55 with additional detailed inspections as warranted. Currently there are 2 bridges of the City's 182 bridge structure inventory with a BCI less than 55.

C. LABOUR AND CONTRACT COSTS

In 2018, the city used a contingent of 135 FTEs which included full-time, part-time, and casual staff which were augmented by contractors. A mix of staff is used for work crews which are deployed across the city. When work is contracted, the cost of contract labor forms part of contract costs. Labour costs for maintenance activities vary based on wage rates, benefit costs, overtime and deployment schedules. Management is exploring opportunities to optimize costs. As this matter is subject to discussions within the Collective Bargaining Process, we have no recommendation.

⁷ Forms a basis for capital budgetary plans

D. MINIMUM MAINTENANCE STANDARDS

The Minimum Maintenance Standards (MMS) for municipal highways prescribed by Ontario Regulations 239/02 stipulate varying times for the completion of maintenance activities including pothole repairs, crack sealing and road inspection. The MMS stipulate timelines that vary between 4 to 60 days for the remediation of potholes based on the class of highway, surface area and depth.

Road inspections are presently documented on paper-based forms without reference to their frequency, completeness or coverage. Manual processes increase the risk of non-compliance with the regulations prescribed by the province.

Recommendations:

- A. Assess the feasibility of using hand held units to record inspections and repairs of potholes; and
- B. Take a lead in the study to identify best practices to repair potholes. Ensure the scope of the study includes plant and equipment and well as processes, materials and labour.

Management Response and Action Plan

- A. *We agree to assess using hand held units.*
- B. *We agree and we intend to pursue the review of pothole repair best practices.*

E. RISK MANAGEMENT PROCESSES

As shown in Appendix 1 and 2, management has taken steps to identify, assess and mitigate significant risks associated with maintenance of road infrastructure. Where appropriate, this audit has provided recommendations for further risk mitigation.

Recommendation:

Continue to integrate risk management processes with other management processes in the Division.

Management Response and Action Plan

Staff will continue to review risks in Linear Infrastructure Services and Infrastructure Capital Planning processes and look for opportunities to mitigate risks.

Appendix 1 – Summary of Significant Risks

Risk	Total No. of Risks	Risks Before Controls			Risks After Controls		
		High	Med	Low	High	Med	Low
Reputation	0	0	0	0	0	0	0
Operational	8	4	4	0	0	8	0
Financial	3	2	1	0	0	3	0
Legal	1	1	0	0	0	1	0
TOTAL	12	7	5	0	0	12	0

Appendix 2 – Significant Risks

Risk	Risk Description	Before Controls	After Controls
F2	Deferral of important capital roads projects due to lack of funding	20	15
F1	Failure to proactively manage lifecycle costs of infrastructure	20	14
O3	Inappropriate prioritization of capital projects for roads projects	16	14
L1	Ineffective claims management processes	16	14
O8	Failure to manage service levels	16	14
F3	Failure to forecast infrastructure renewal costs	16	14
O1	Failure to prioritize renewals of vulnerable bridges and culverts	20	12
O2	Failure to effectively inspect bridge and culvert condition	20	12
O4	Failure to manage labour productivity	15	12
O5	Ineffective performance monitoring	14	12
O6	Failure to optimize labour costs	14	12
O7	Failure to optimize contract costs	14	12