Chapter 22
Highways and Infrastructure—Bridge Maintenance

1.0 Main Points

The Ministry of Highways and Infrastructure (Ministry) has worked towards addressing all four recommendations that we made in our 2011 audit of its processes to maintain bridges on provincial highways.

The Ministry has implemented two recommendations, and has more work to do on the remaining two. The Ministry needs to complete the process of entering bridge inspection information into the Bridge Management System and keep it up to date, and ensure that it receives and reviews reports on the results of bridge inspection and maintenance activities.

2.0 Introduction

The Ministry is responsible for all matters related to bridges on the provincial highway system, including the maintenance of those bridges. Bridges are classified by the Ministry using two general categories: minor[1] and major.[2] It has about 630 minor bridges and 170 major bridges. Properly maintaining these bridges helps keep the transportation system safe and supports Saskatchewan's economy.

This chapter describes our first follow-up of management's actions on four recommendations we made for the Ministry in our *2011 Report – Volume 1*, Chapter 6 to improve bridge maintenance processes.

To conduct this review, we followed the standards for assurance engagements published in the *CPA Canada Handbook – Assurance*. To evaluate the Ministry's progress towards meeting our recommendations, we used the relevant criteria from the original audit. The Ministry's management agreed with the criteria in the original audit.

3.0 Status of Recommendations

This section sets out each recommendation, the context for the recommendation (in italics), the Ministry's actions up to January 31, 2014, and the status of the recommendations, including the date on which the Standing Committee on Public Accounts agreed to the recommendation. By January 31, 2014, the Ministry had met two recommendations but still had more work to do on the other two.

[1] Minor bridges are on average smaller, and consist of both timber and short-span concrete/steel bridge structures. Total deck surface area of minor bridges is 107 thousand square meters.
[2] Major bridges are on average larger, and the majority of the bridge structure is made of concrete that is reinforced with steel. Total deck surface area of major bridges is 136 thousand square meters.

3.1 Obtain Reliable Information on Bridges

We recommended that the Ministry of Highways and Infrastructure keep bridge management system records up to date. (2011 Report – Volume 1; Public Accounts Committee agreement October 4, 2012)

Status – Partially Implemented

As part of bridge maintenance, the Ministry conducts bridge inspections. It enters reports from these inspections into the Ministry's Bridge Management System (BMS). The Ministry's preservation engineers review BMS inspection reports to make assessments regarding necessary maintenance work and the risk of bridge failure. Timely entry of inspection reports is important to ensure that management has up-to-date information on bridge conditions to make informed decisions about planned and required maintenance.

Since our audit, the Ministry has reduced its backlog of unentered inspection reports. It expects to complete the entry of bridge inspections from 2012 and 2013 by April 30, 2014.

As well, the Ministry has developed procedures and timelines for entering bridge inspection reports into BMS. The Electronic Bridge Record document requires minor bridge inspection reports to be entered into BMS within two weeks following an inspection, and major bridge inspection reports to be entered within one month. The Ministry plans on following these new procedures once it commences the next round of inspections in the summer of 2014.

3.2 Develop a Maintenance Plan

We recommended that the Ministry of Highways and Infrastructure document its key bridge maintenance planning processes and its bridge maintenance plan. (2011 Report – Volume 1; Public Accounts Committee agreement October 4, 2012)

Status – Implemented

Documented procedures are important to ensure that bridge maintenance activities can be effectively planned and carried out in the event of unplanned staff turnover.

The Ministry developed a five-year plan to manage the replacement of bridges and a five-year plan for the rehabilitation and preservation of bridges.

Also, by January 2014, the Ministry documented its key bridge maintenance planning processes for its Bridge Replacement Program, Bridge Rehabilitation Program and Bridge Maintenance Program. These documented processes assist staff in developing

bridge replacement, rehabilitation, and maintenance plans. It expects to approve these processes by April 30, 2014.

We recommended that the Ministry of Highways and Infrastructure set long-term service objectives for bridges and use them to determine its annual and longer-term maintenance priorities. (2011 Report – Volume 1; Public Accounts Committee agreement October 4, 2012)

Status – Implemented

Long-term service objectives for bridges are the level to which the Ministry can maintain bridges to achieve the desired level of safety. Use of these objectives can help the Ministry select the appropriate maintenance activities at the right time. They will also help staff make decisions on maintenance activities consistent with the Ministry's priorities.

By January 2014, the Ministry had set minimum bridge service level conditions (service objectives) based on bridge type and location, called the Bridge Condition Index (BCI) and Bridge Sufficiency Index (BSI).

The Ministry assesses the BCI and BSI against service objectives for each of its bridges and uses this information to set annual and long-term maintenance priorities. They plan to periodically reassess the service objectives as more information on bridge service level conditions is known.

3.3 Monitor Performance

We recommended that senior management of the Ministry of Highways and Infrastructure receive and review reports on the results of bridge inspection and maintenance activities. (2011 Report – Volume 1; Public Accounts Committee agreement October 4, 2012)

Status – Partially Implemented

Senior management's receipt and regular review of reports on the results of bridge inspection and maintenance activities supports making informed, long-term decisions about the bridges.

The Ministry documented its Bridge Reporting requirements. It now requires an annual report on the provincial bridge inventory, quarterly status reports on bridge inspections, and an annual bridge maintenance plan to be submitted to senior management. At January 2014, senior executives had started to receive and review required reports containing some of the required information. Management expects the reports to contain more of the required information as BMS is used and more data is entered.