Executive Summary

In the fall of 2012, the Province of Ontario introduced a strategy requiring municipalities that request provincial infrastructure funding to demonstrate how their proposed projects fit within a comprehensive Asset Management Plan. As part of the launch of the strategy, the government released Building Together: Guide for Municipal Asset Management Plans. To qualify for future infrastructure grants, an Asset Management Plan had to be developed and approved by a municipal council by December 31, 2013.

In April 2013, the Province announced that it had created a $100 million infrastructure fund for small, rural and northern municipalities (SRNMIF). Subsequently, in August 2014, the province introduced the Ontario Community Infrastructure Fund (OCIF) and the Building Canada Fund – Small Communities Fund (BCF-SCF). The OCIF formula funding could be used for asset management planning and the OCIF application funding could be used for critical roads, bridge, water and wastewater projects identified under asset management plans. Building on previous conditions, an Asset Management Plan approved by Council, or a commitment to develop an Asset Management Plan by December 31, 2015, was required as part of the submission for funding.

The *Infrastructure for Jobs and Prosperity Act*, passed by the legislature in spring 2015, makes asset management planning mandatory for broader public sector organizations such as municipal governments. This legislation is a natural expansion from the program implemented in 2013, as well as a reaction to the federal condition included in the most recent Federal-Provincial Gas Tax Agreement. In order to be eligible for funding under the new Gas Tax agreement, municipalities must develop and implement an Asset Management Plan with financing strategies by December 31, 2016. The plan must cover all 17 eligible Gas Tax infrastructure categories (Table 1.1) and will be required to demonstrate how Asset Management Plans are being used to identify and fund priority projects. Municipalities are expected to continue working on the improvement of their asset management plan even if they are not able to incorporate all eligible tangible capital assets by Dec 31, 2016. A percentage of Asset Management Plans will be reviewed for comprehensiveness.

In September 2011, the Town of Bradford West Gwillimbury (the Town) awarded the work to assist the Town in improving its Asset Management capabilities by preparing an Asset Management Strategy and Asset Replacement Plans to GHD Inc., specialists in Asset Management. This strategy outlined asset management best practices, documented observations/findings and conclusions regarding the current status of the Town's asset management practice, and recommended a prioritized improvement plan (AM Roadmap) to help the Town build its asset management capacity. The Replacement Plan attempted to quantify the level of investment required by the Town to sustain (and replace) its assets in the long term. The asset inventory and asset values were collected primarily from the Town's existing PSAB information. The Asset Management study was adopted in June 2012.

The Town's Asset Management Strategy does not meet the minimum requirements listed in the Province's Building Together guide, therefore, this Plan was developed following the Building Together guidelines and to satisfy the Gas Tax Agreement requirements.

Project Approach

The scope of this report is to develop an Asset Management Plan following the provincial guidelines for producing an Asset Management Plan with the following content:

1. Executive Summary
2. Introduction
3. State of the Local Infrastructure
4. Expected Levels of Services
5. Asset Management Strategy and,
6. Financing Strategy

As the management of corporate assets evolves, there should be a corporate policy providing general direction and guidance that could be applied to all assets as their respective plans are developed. The Corporate Asset Management Policy forms Appendix A of this report.

Principal Documents

Asset management by its very nature is holistic. Generally, no asset should be reviewed by a single parameter to advance an asset management strategy. Similarly, asset groups should not be considered in isolation of other asset groups as there may be a relationship where an integrated approach will be beneficial and more cost effective for all assets. To that end, the principal data sources for the development of the Asset Management Plan are as follows;

- 2012 Asset Management Strategy and Plan Project, GHD Inc.
- 2012 Road Needs Study, C.C. Tatham & Associates Ltd.
- 2010 Municipal Bridge Inspection, R.J. Burnside & Associates Limited
- 2015 & 2016 Budget & Business Plan, Town of Bradford West Gwillimbury
- 2015 Tangible Capital Asset reports & spreadsheets
- ESRI GIS databases – asset features and attributes, Town of Bradford West Gwillimbury
- 2015 DWQMS Operational Plan, Town of Bradford West Gwillimbury

State of the Infrastructure

The Town has not established current condition ratings for many of the asset groups contained in this Plan. Where condition ratings do exist, the information is quickly becoming outdated and the legislated requirement for the timing of assessments has not been met. The 2012 Road Needs Study – Road Inventory & Assessment, 2010 Municipal Bridge Inspection, and 2012 Road Needs Study – Culvert Inventory & Assessment provide the basis for the roads and structures data.

For roads assets, data and road condition ratings were completed in accordance with Ministry of Transportation Ontario (MTO) *Inventory Manual for Municipal Roads, 1991*, during a survey in April 2012. For structures with spans of 3 meters or greater, data and structure condition assessments were completed in general accordance with the intent of the Ontario Structure Inspection Manual. Structures with spans less than 3 meters (road crossing culverts) were completed in accordance with the Ontario Structure Inspection Manual during a survey in October / November 2011.

Water, wastewater and stormwater condition ratings were not available. However, the the Town's GIS databases do include a listing of construction dates and material types for the respective asset groups. Pipe materials have generally accepted life expectancies, which were drawn from other publicly available asset management plans and confirmed through consultation with department managers.

All other asset groups, with the exception of stormwater management facilities, have been analyzed from data available in the Town's 2015 Tangible Capital Asset reports and spreadsheets and 2012 Asset Management Strategy and Plan Project. Stormwater management facilities data is subject to the completion of the Town's Comprehensive Stormwater Master Plan and pond assessments by the end of 2016. Data from the Master Plan and pond assessments will be incorporated into the Asset Management Plan during the next annual update cycle.

In the interest of reducing duplication and redundancy, the principal documents as noted previously are not reproduced as part of the Asset Management Plan, but will be made available on the Town's website, when practical. Select information and references will be made to the principal documents.

Table ES.1: State of the Infrastructure Summary by Asset Group

	Estimated Replacement Value	**Estimated Annual Contribution**	**Quantity**
Roads*	$ 145,600,000	$ 3,360,000	244.63 km
Structures**	$ 30,000,000	$ 557,000	24 bridges & culverts
Road Crossing Culverts***	$ 3,024,800	$ 121,000	46
Water Linear*	$ 34,700,000	$ 430,000	139.9 km
Wastewater Linear*	$ 24,400,000	$ 490,000	110.4 km
Stormwater Linear*	$ 36,900,000	$ 737,000	110.4 km
SWM Facilities****	N/A	N/A	24
Fleet**	$ 2,340,000	$ 235,000	84
Facilities**	$ 142,800,000	$ 4,800,000	N/A
Parks*	$ 5,400,000	$ 300,000	62.7 ha
Transit**	$ 582,840	$ 75,200	3 busses 83 bus pads
Total	**$ 425,747,640**	**$ 11,105,200**	

* based on Asset Replacement Plan (GHD) 2012 data

** based on current Town PSAB data

*** Road Needs Study – Culvert Inventory & Assessment, 2012

**** pending completion of Comprehensive Storm Water Master Plan (late 2016)

Financial Plan

Integral to the asset management plan is the financial strategy and plan. The Financial Plan also has to integrate all aspects of costs associated with an asset including;

- Operating
- Interest
- Amortization
- Inflation
- System Growth, and
- System Enhancements

The Road Needs Study, 2012, identified significant needs for both the road network and road crossing culverts. The roads assessment identified $11.9 million in 'NOW' improvements and $16.3 million over a 10-year period. The culvert assessment identified $431,000 for maintenance and rehabilitation needs over a 10-year period, and #3.0 million in replacement costs over 20+ years. The Municipal Bridge Inspection, 2010, identified maintenance, rehabilitation and replacement costs, but the costs of recently reconstructed bridges (as per PSAB spreadsheets) appear to be higher than those estimated by the report. Water and wastewater funding levels are based on rates studies, and appear to be sufficient to sustain the asset groups over time. Water assets also require a 6-year Water Financial Plan; a long-term strategic plan developed to ensure the financial sustainability of the drinking water system. It contains a section on reserve funds necessary to fund replacement and rehabilitation of water assets as well as larger non-growth related projects. Other asset groups do not have formal replacement plans but some planning may be involved at the department level.

Asset management strategies are critical to managing the performance of an asset group, more so if funding is limited. Funding constraints should push the strategy toward those programs that extend the lifecycle of the asset by providing the correct treatment at the optimum time / condition. For roads, resurfacing, rehabilitation, and preservation projects should be a higher priority than reconstruction projects. The objective is to "keep the good roads good". Similarly for other assets and asset groups.

Asset Management Plan

Asset Management by its very nature is holistic. Making a decision about an improvement to an asset in isolation is short sighted and may be more expensive in the longer term. Making a decision about an improvement to an asset that may be affected by, or cause an effect to other assets, is equally short sighted.

The Province's Building Together: Guide for Municipal Asset Management Plans indicates that an Asset Management Plan should include a summary of planned actions as follows:

- *Non-infrastructure solutions – actions or policies that can lower costs or extend asset life (e.g. better integrated infrastructure planning and land use planning, demand management, insurance, process optimization, managed failures, etc.).*
- *Maintenance activities – including regularly scheduled inspection and maintenance, or more significant repair and activities associated with unexpected events.*
- *Renewal / rehabilitation activities – significant repairs designed to extend the life of the asset. For example, the lining of iron watermains can defer the need for replacement.*

- *Replacement activities – activities that are expected to occur once an asset has reached the end of its useful life and renewal / rehabilitation is no longer an option.*
- *Disposal activities – the activities associated with disposing of an asset once it has reached the end of its useful life, or is otherwise no longer needed by the municipality.*
- *Expansion activities (if necessary) – planned activities required to extend services to previously un-serviced areas – or that expand services to meet growth demands.*

The Building Together document also indicates that:

'The asset management strategy is the set of actions that, taken together, has the lowest total cost – not the set of actions that each has the lowest cost individually.'

The Town's budget document identifies maintenance, operating and capital budget programs and contains many of the items on the preceding list. The Town also has an operational plan for its drinking water systems; the DWQMS Operational Plan, which contains some of the items on the preceding list.

However, one observation from the review of previous budget documents is that many of the road projects were either not identified in the Road Needs Study, 2012, or were improved differently from the recommendation in the Study. Some projects may have been reprioritized due to other infrastructure needs, but cross asset integration is only occurring informally and there is little, if any, documentation to validate the reprioritized needs.

The Town currently has a longer term capital plan in place. The development of a capital plan requires significant time and effort to prepare and execute. Many of the identified projects in the capital plan integrate with other assets. However, further review of all assets, their conditions (estimated or assessed) and priorities, needs to take place to ensure that the proper improvements are being recommended. It cannot be expected that a wholesale change in capital planning and programming occurs within a single budget year. However, programming should be reviewed ensure cross asset integration has been maximized and maintenance programs are optimized for the next budget cycle.

Recommendations

The following recommendations are provided for the management of the asset groups included in this Plan;

1. The Asset Management Plan should be updated on an annual basis to reflect the changes to the respective asset groups in terms of expansion, improvements, and inflation. The funding benchmarks should also be updated based on current year cost experience.
2. Continue to further develop the Asset Management Plan and inventories for the asset groups contained in this plan as well as those not already captured.
3. Continue to develop, update and implement comprehensive asset replacement plans for all asset groups.
4. Consideration should be given to annual contributions to reserves or creating a funding source for the asset groups contained in this plan, if they do not already exist, in order to assist with closing the infrastructure funding gap.
5. Consideration should be given to adjust funding annually to account for inflation, system growth and exceptional increases to commodity pricing.

6. A review cycle for the road system should be established; reviewing the entire system on a four-year cycle.
7. Adopt the Inventory Manual methodology for future Road Needs Studies and configure existing roads information stored in GIS databases to facilitate future studies.
8. Traffic counts should be updated and repeated on a regular basis. The counting should include the percentage of truck traffic.
9. The legislated review cycle for the structures inventory should be followed; reviewing the entire inventory on a two-year cycle.
10. Require that the structure inspections include a Bridge Condition Index (BCI) for all structures.
11. A condition review and analysis cycle should be developed for the water, wastewater, and stormwater linear assets.
12. Rating methodologies for water, wastewater and stormwater linear assets should be adopted.
13. Purchase additional software modules to allow for the development of performance models for all asset groups.
14. Develop and maintain a master list of procedures (operating/maintenance) and update existing procedures. Formalize existing unwritten procedures (operating/maintenance) and create new as necessary.
15. Assets within the road allowance should be linked to the road asset ID to facilitate cross asset integration and modeling.
16. Develop detailed levels of asset hierarchy to support operations and maintenance activities.
17. Develop a town-wide asset data register that will define which asset attributes will be collected for which assets, the level of data quality required and who is responsible for the data.
18. Programming should be reviewed to;
    - Ensure cross asset integration opportunities have been maximized,
    - Ensure that maintenance and preservation programs are optimized.
19. Develop and implement a Level of Service (LOS) framework that supports all asset classes.